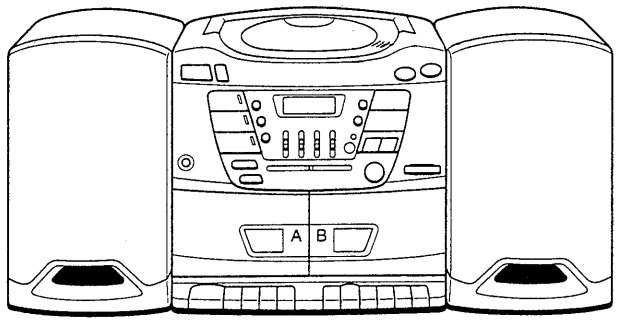
CFD-ZW160L

SERVICE MANUAL

AEP Model
UK Model
Australian Model



CD Section	Model Name Using Similar Mechanism	NEW
	CD Mechanism Type	KSM-213CAM/C2NP
	Optical Pick-up Name	KSS-213C/C2N
TAPE Section	Model Name Using Similar Mechanism	NEW
	Tape Transport Mechanism Type	MF-ZW150

SPECIFICATIONS

CD player section

System
Compact disc digital audio system
Laser diode properties
Material: GaAlAs
Wave length: 780 nm
Emission duration: Continuous
Laser output: Less than 44.6 µW
(This output is the value measured at a distance of about 200 mm from the objective lens surface on the optical pick-up block with 7 mm aperture.)
Spindle speed
200 r/min (rpm) to 500 r/min (rpm) (CLV)
Number of channels
2
Frequency response
20 - 20,000 Hz +3/–3 dB
Wow and flutter
Below measurable limit

Radio section

Frequency range

FM	EXCEPT Italy	87.6 - 107 MHz
	Italy	87.5 - 108 MHz
MW	EXCEPT Italy	531 - 1,602 kHz
	Italy	526.5 - 1,606.5 kHz
LW	EXCEPT Italy	153 - 279 kHz
	Italy	148.5 - 283.5 kHz

IF
FM: 10.7 MHz
MW/LW: 455 kHz
Aerials
FM: Telescopic aerial
MW/LW: Built-in ferrite bar aerial

Cassette-corder section

Recording system
4-track 2 channel stereo
Fast winding time
Approx. 110 s (sec.) with Sony cassette C-60
Frequency response
TYPE I (normal): 80 - 10,000 Hz

General

Speaker
Full range: 10 cm (4 in.) dia.,
3.2 ohms, cone type (2)
Outputs
Headphones jack (stereo minijack)
For 16 - 68 ohms impedance headphones
Maximum power output
6.3 W + 6.3 W (in AC operation)
Power requirements
For CD radio cassette-corder:
230 V AC, 50 Hz
12 V DC, 8 R20 (size D) batteries
For memory back-up:
4.5 V DC, 3 R6 (size AA) batteries
For remote
3 V DC, 2 R6 (size AA) batteries
Power consumption
AC 30 W

Battery life
For CD radio cassette-corder:

FM recording	
Sony R20P: approx. 6.5 h	
Sony alkaline LR20: approx. 12 h	
Tape playback	
Sony R20P: approx. 3 h	
Sony alkaline LR20: approx. 6 h	
CD playback	
Sony R20P: approx. 1.5 h	
Sony alkaline LR20: approx. 3 h	

For memory back-up: approx. 1 year
Dimensions
Approx. 648 × 218 × 277 mm
(w/h/d) (25 ⅝ × 8 × 7 inches)
(incl. projecting parts)
Mass
Approx. 8.7 kg (19 lb. 3 oz) (incl. batteries)
Supplied accessory
AC power cord (1)
Remote controller (1)

Design and specifications are subject to change without notice.

CD RADIO CASSETTE-CORDER

MICROFILM

SONY®

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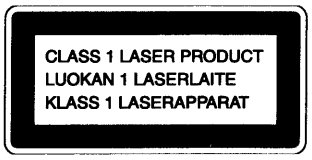
CAUTION

Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

This appliance is classified as a CLASS 1 LASER product. The CLASS 1 LASER PRODUCT MARKING is located on the rear exterior.



Laser component in this product is capable of emitting radiation exceeding the limit for Class 1.

SAFETY-RELATED COMPONENT WARNING!!

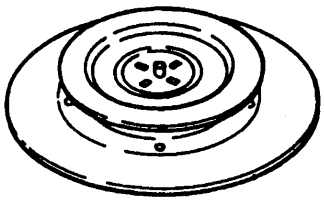
COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

SECTION 1
SERVICING NOTES

CHUCK PLATE JIG ON REPAIRING

On repairing CD section, playing a disc without the CD lid, use Chuck Plate Jig.

• Code number of Chuck Plate Jig: X-4918-255-1



NOTES ON HANDLING THE OPTICAL PICK-UP BLOCK OR BASE UNIT

The laser diode in the optical pick-up block may suffer electrostatic breakdown because of the potential difference generated by the charged electrostatic load, etc. on clothing and the human body. During repair, pay attention to electrostatic breakdown and also use the procedure in the printed matter which is included in the repair parts.

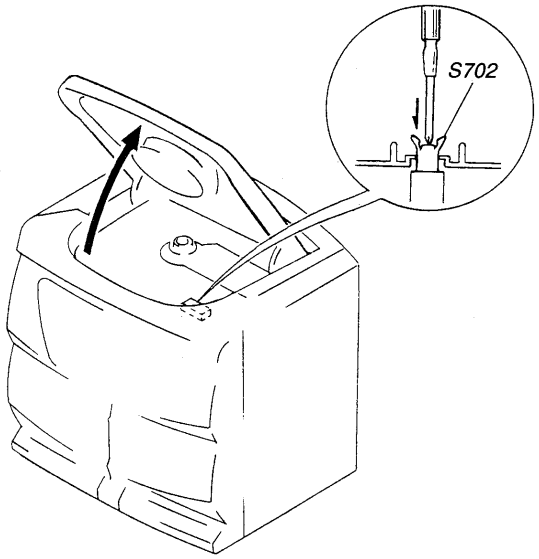
The flexible board is easily damaged and should be handled with care.

NOTES ON LASER DIODE EMISSION CHECK

The laser beam on this model is concentrated so as to be focused on the disc reflective surface by the objective lens in the optical pick-up block. Therefore, when checking the laser diode emission, observe from more than 30 cm away from the objective lens.

LASER DIODE AND FOCUS SEARCH OPERATION CHECK

1. Turn POWER switch on with no disc inserted and make Function switch to CD position.
2. Open the lid for CD.
3. Turn on S702 as following figure.
4. Press the ▷II button.
5. Confirm the laser diode emission while observing the objecting lens. When there is no emission, Auto Power Control circuit or Optical Pick-up is broken.
   Objective lens moves up and down three times for the focus search.

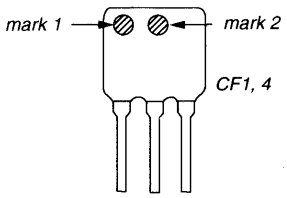


HOW TO CHANGE THE FM CERAMIC FILTERS

This model is used two ceramic filters of CF1 and CF4.

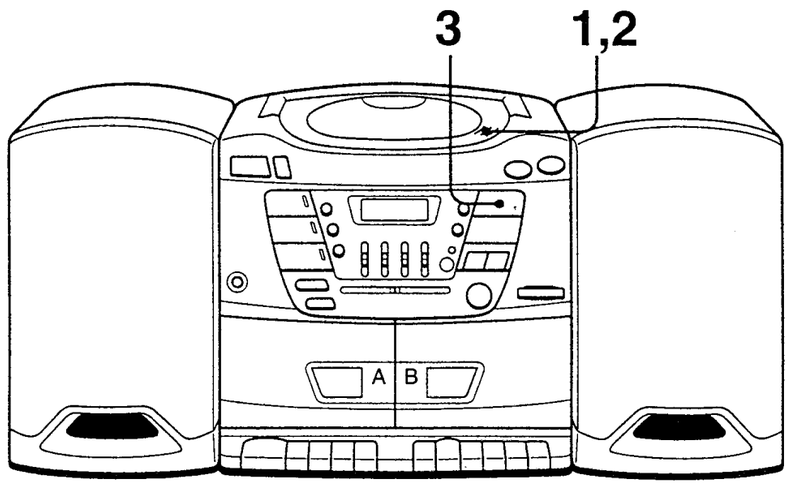
You must use same type of color marked ceramic filters in order to meet same specifications.

Therefore, the ceramic filter must change two pieces together since it's supply two pieces in one package as a spare parts.



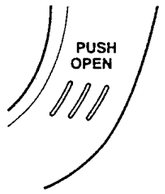
Mark 1	Mark 2	Center frequency
red	—	10.70MHz
blue	—	10.67MHz
orange	—	10.73MHz
black	—	10.64MHz
white	—	10.76MHz
white	white	10.75 MHz
yellow	—	10.79 MHz

Playing a CD

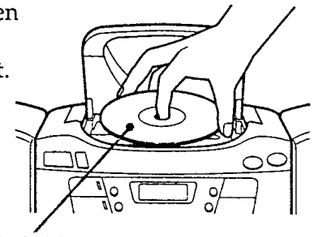


For hookup instructions, see pages 20 – 22.

1

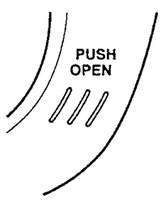


Push PUSH OPEN down to open the CD compartment and place the CD on the CD compartment.

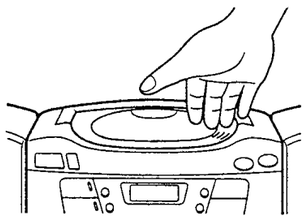


With the label side up

2



Close the lid of the CD compartment.

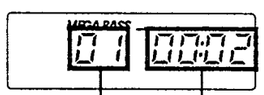


3

Press ►II (direct power-on).

The player plays all the tracks once.

Display

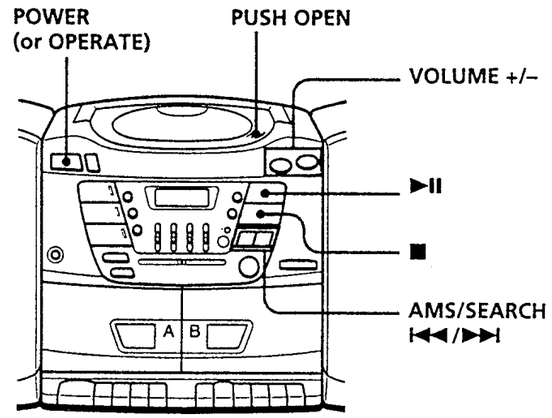


Track number Playing time

Tip

Next time you want to listen to a CD, just press ►II. The player turns on automatically and starts playing the CD.

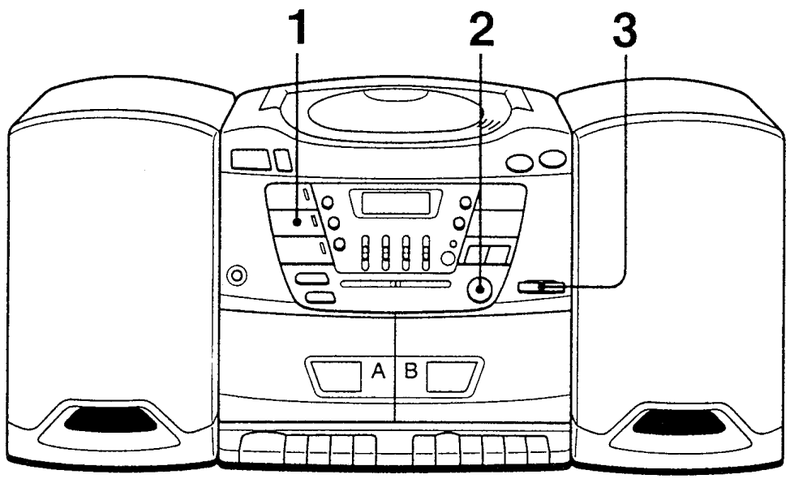
Use these buttons for additional operations



To	Press
Adjust the volume	VOLUME +/–
Stop playback	■
Pause playback	►II Press again to resume play after pause.
Go to the next track	AMS/SEARCH►►I
Go back to the previous track	AMS/SEARCHI◄◄
Remove the CD	PUSH OPEN
Turn on/off the player	POWER (or OPERATE, see page 2)

This section is extracted from instruction manual.

Listening to the radio

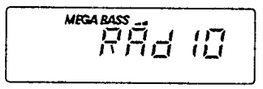


For hookup instructions, see pages 20 – 22.

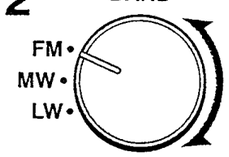
1

Press RADIO (direct power-on).

Display

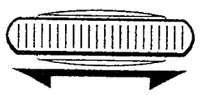


2 BAND

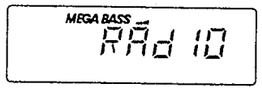


Turn BAND to select the band you want.

3 TUNING



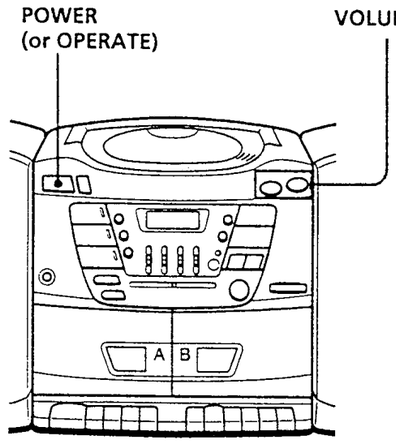
Turn TUNING to tune in the station you want.



Tips

- If the FM broadcast is noisy, set FM MODE/ ISS at the rear to "MONO". Radio will play in monaural.
- Next time you want to listen to the radio, just press the RADIO button. The player turns on automatically and starts playing the previous station.

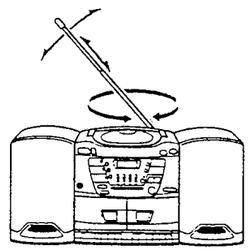
Use these buttons for additional operations



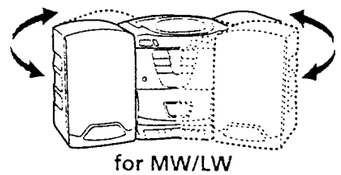
To	Press
Adjust the volume	VOLUME +/–
Turn on/off the radio	POWER (or OPERATE, see page 2)

To improve broadcast reception

Reorient the antenna for FM. Reorient the player itself for MW/LW .

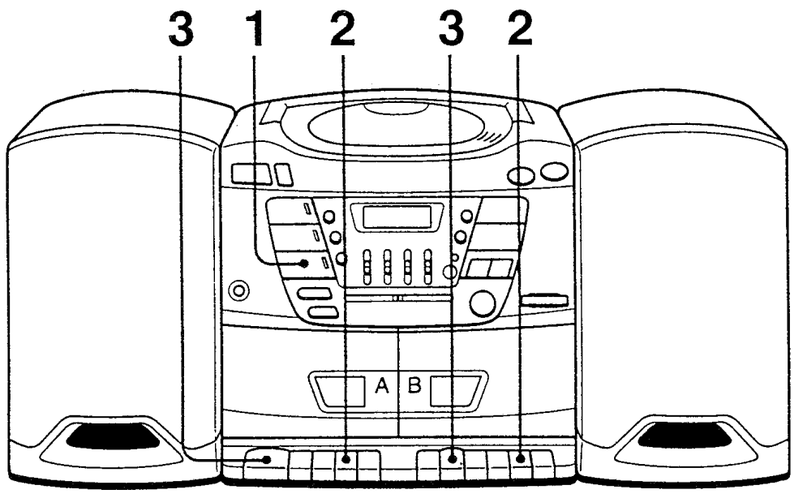


for FM



for MW/LW

Playing a tape

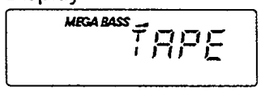


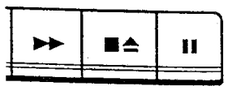
For hookup instructions, see pages 20 – 22.

1

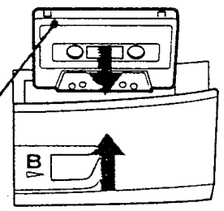
Press TAPE (direct power-on).

Display

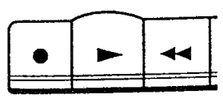


2 

Press ■⏏ to open tape compartment and insert a recorded tape. Close the compartment.



With the side you want to play facing forward

3 

Press ►

The player starts playing.

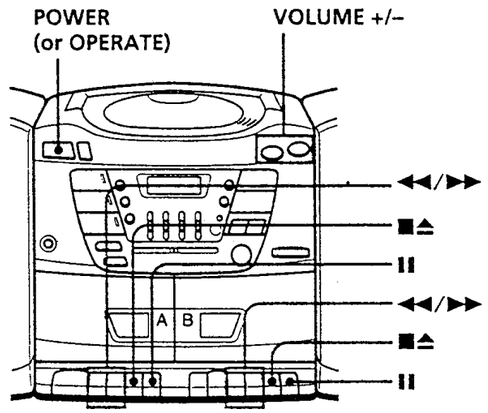
Note

During playback, do not press buttons on the other deck. Otherwise the playback speed may change.

Tip

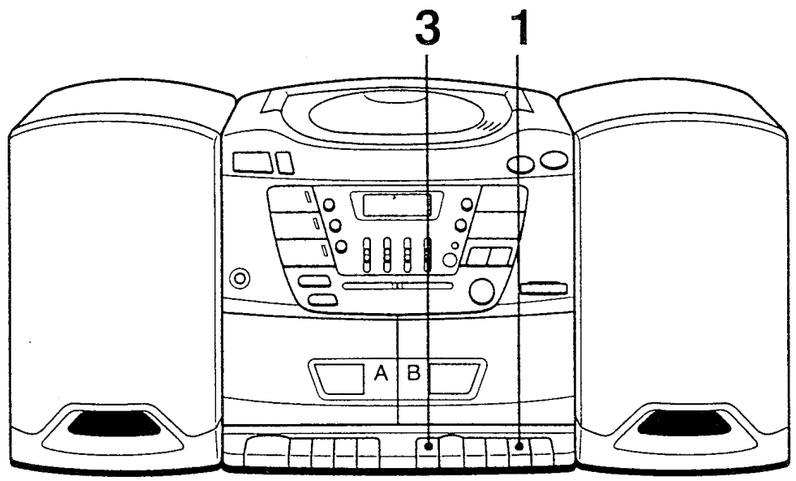
For the best results, use TYPE I (normal) tape.

Use these buttons for additional operations



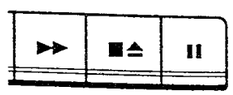
To	Press or slide
Adjust the volume	VOLUME +/–
Stop playback	■⏏
Fast-forward or rewind the tape	►► or ◄◄
Pause playback	II Press the button again to resume play after pause.
Eject the cassette	■⏏
Turn on/off the player	POWER (or OPERATE, see page 2)

Recording on a tape

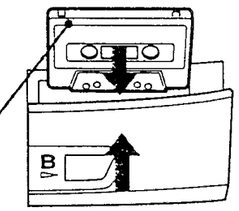


For hookup instructions, see pages 20 – 22.

1



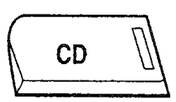
Press ■⏏ to open the tape compartment on deck B and insert a blank tape.



With the side you want to record on facing forward

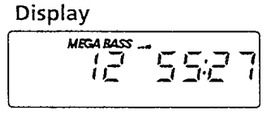
2

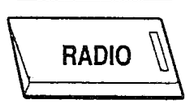
Select the program source you want to record.



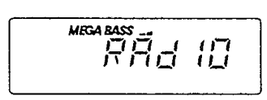
To record from the CD player, insert a CD (see page 4) and press CD.

Display

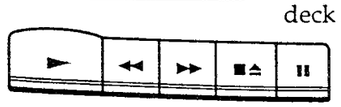




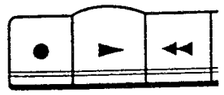
To record from the radio, press RADIO and tune in the station you want using TUNING (see page 6.)



To record from a tape, press TAPE, insert a recorded tape into deck A and press ❚❚ and ► on deck A.



3 Deck B



Start recording.

To record, press ● on deck B (► is depressed automatically).

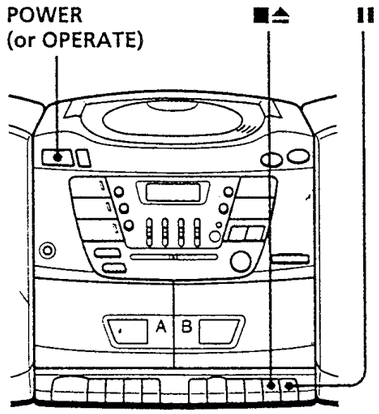
Note

When recording a CD, press ● after the total track number and the total playing number of the CD have been displayed.

Tips

- Adjusting the volume or the audio emphasis (see page 23) will not affect the recording level.
- If the MW/LW program makes a whistling sound after you've pressed ● in step 3, set the FM MODE/ISS (Interference Suppress Switch) at the rear to the position that most decreases the noise.
- For the best results, use the AC power as a power source and use TYPE I(normal) tape for recording.
- To erase a recording, proceed as follows:
  1 Press TAPE until "TAPE" appears in the display window.
  2 Press ● on deck B.

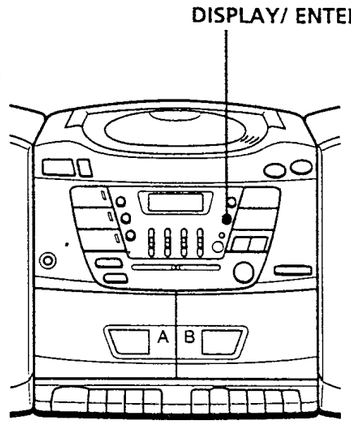
Use these buttons for additional operations



To	Press
Stop recording	■⏏ on deck B
Pause recording	❚❚ on deck B Press the button again to resume recording.
Turn on/off the player	POWER (or OPERATE, see page 2)

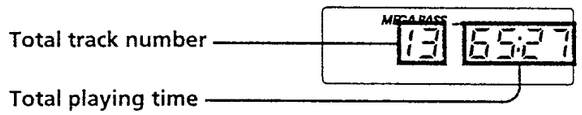
Using the display

You can check information about the CD using the display.



Checking the total track numbers and playing time

Press DISPLAY/ENTER in stop mode.



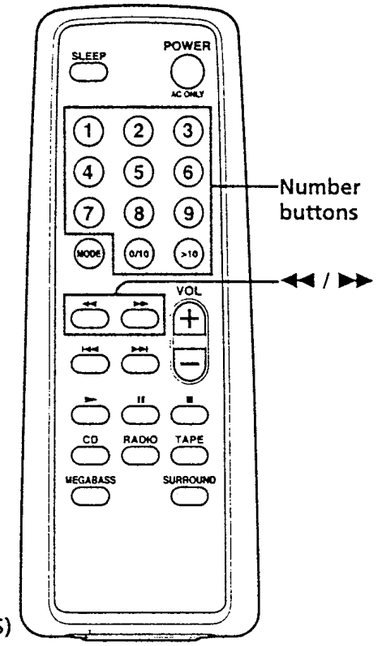
Checking the remaining time

Press DISPLAY/ENTER while playing a CD.

To display	Press DISPLAY/ENTER
Remaining time on the CD and the number of tracks left	Once
The current track number and playing time	Twice

Locating a specific track

You can quickly locate any track using the number buttons.
You can also find a specific point in a track while playing a CD.



(Excluding CFD-ZW150S)

Note

You cannot locate a specific track if "SHUF REP" or "PGM" is lit in the display. Turn off the indication by pressing ■.

Tip

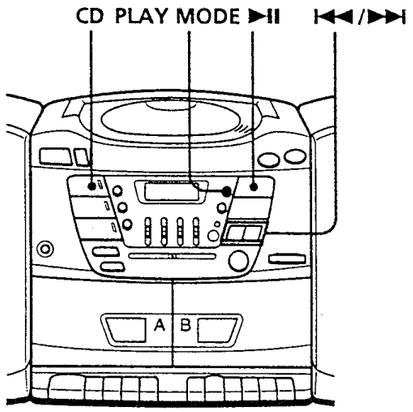
When you locate a track numbered over 10, press >10 first, then the corresponding number buttons.
Example:
To play track number 23, press >10 first, then 2 and 3.

To locate	Press
a specific track directly	number button of the track.
a point while listening to sound	▶▶ (forward) or ◀◀ (backward) the while playing and hold down until you find the point. When you use the buttons on the player, use AMS/ SEARCH I◀◀ / ▶▶I.
a point while observing the display	▶▶ (forward) or ◀◀ (backward) in pause and hold down until you find the point. When you use the buttons on the player, use AMS/ SEARCH I◀◀ / ▶▶I.

Playing tracks repeatedly

(Repeat Play)

You can play tracks repeatedly in normal, shuffle or program play modes (see page 15).



1 Press CD.

"Cd" appears in the display.

2 Press PLAY MODE until the repeat mode you want appears in the display.

To repeat	Select
a single track	REP 1
all the tracks	REP ALL
tracks in random order	SHUF REP
programed tracks	PGM REP and then progam tracks (see step 3 on page 15).

3 Do either of the following to start repeat play:

- **When you've selected REP1,** select the track by pressing AMS/SEARCH I◀◀ or ▶▶I and press ▶II.
- **When you've selected REP ALL, SHUF REP or PGM REP,** press ▶II .

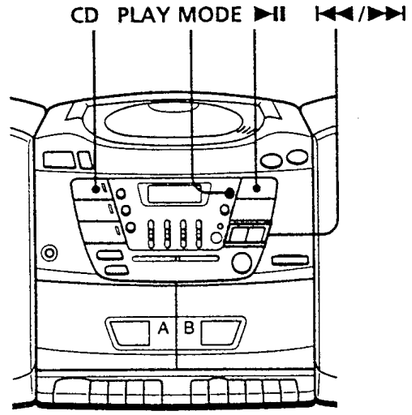
To cancel Repeat Play

Press PLAY MODE until "REP" disappears from the display.

Creating your own program

(Program Play)

You can make a program of up to 20 tracks in the order you want them to be played.



Tips

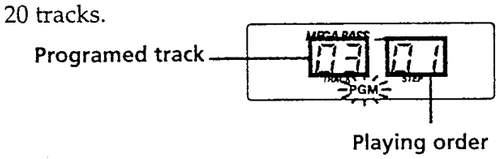
- When using the remote, you can select the track by pressing the number buttons instead of AMS/SEARCH I◀◀ /. ▶▶I and DISPLAY/ ENTER.
- You can play the same program again, since the program is saved until you open the disc compartment.
- You can record your own program. After you've created the program, insert a blank tape into deck B and press ● on deck B to start recording.

1 Press CD.

"Cd" appears in the display.

2 Press PLAY MODE until "PGM" appears in the display.

3 Press AMS/SEARCH I◀◀ or ▶▶I then press DISPLAY/ENTER for the tracks you want to program in the order you want. You can program up to 20 tracks.



4 Press ▶II to start program play.

To cancel Program Play

Press PLAY MODE until "PGM" disappears from the display.

To check the order of tracks before play

Press DISPLAY/ENTER.

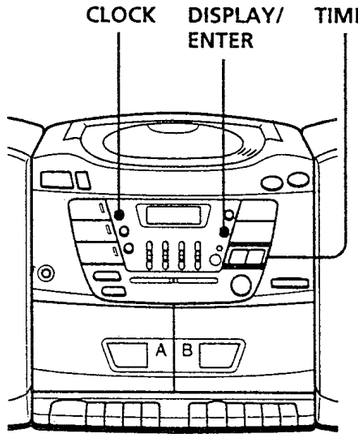
Every time you press the button, the track number appears in the programed order.

To change the current program

Press ■ once if the CD is stopped and twice if the CD is playing. The current program will be erased. Then create a new program following the programing procedure.

Setting the clock

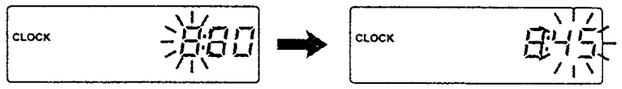
Before you set the clock, insert three R6 (size AA) batteries and connect the AC power cord (see page 20 and 21.)
As long as the clock goes, ":" flashes.



1 Press and hold CLOCK for about 2 seconds until the hour digit flash.

2 Press TIME SET +/– until you set the current hour. Then press DISPLAY/ENTER.

The minute digits flash. Set the minutes by pressing TIME SET +/– until the current minute is displayed.

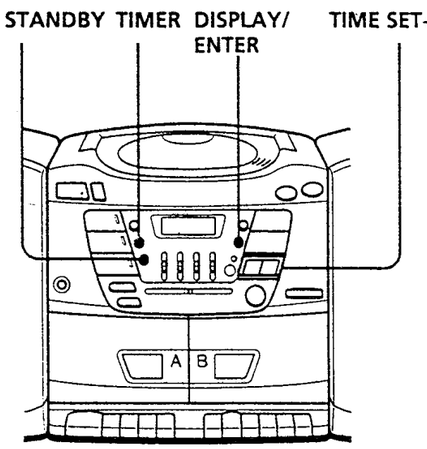


3 Press DISPLAY/ENTER.

The clock starts from 00 seconds.

Waking up to music

You can wake up to music at a preset time. Make sure you have set the clock ("Setting the clock" on page 16).



1 Prepare the music source you want to play.

To play	Do this
the radio	Tune in a station
a CD	Insert a CD.

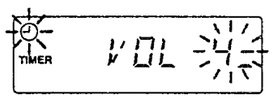
2 Press TIMER for about 2 seconds.

The ⏲ (clock) and the music source ("Cd" or "RAdIO") flash.

3 Select the music source ("Cd" or "RAdIO") by pressing TIME SET +/–, then DISPLAY/ENTER.

4 Set the timer to the hour you want the music to start by pressing TIME SET +/– then DISPLAY/ ENTER. Set the minutes, then press DISPLAY/ ENTER.

5 Press TIME SET +/– to set the volume, then DISPLAY/ENTER.



continued

Tips

- The display window dims while the waking up timer is on.
- You can have the player go on the next day at the same time. Just press STANDBY until the ⏲ indication appears in the display. The preset settings remain until you reset them.

Note

During the timer mode, you cannot change the tape player to the tape function. To operate the tape player, press STANDBY until the ⏲ indication disappears from the display first, then operate the tape player.

6 Press STANDBY.

The ⏲ indication appears in the display and the power goes off.

At the preset time, the power will go on and music will play for 2 hours.

To check/change when the playback will start

Press TIMER for about 2 seconds, then DISPLAY/ENTER. Each time you press DISPLAY/ENTER, a stored setting lights up. Change the setting if you need to when the setting lights up. When you finish checking the setting of volume, press TIMER again.

To use the player before a timer playback starts

Just turn on the player, and then you can use it.

If you turn off the player before the preset time, timer playback will start at the preset time.

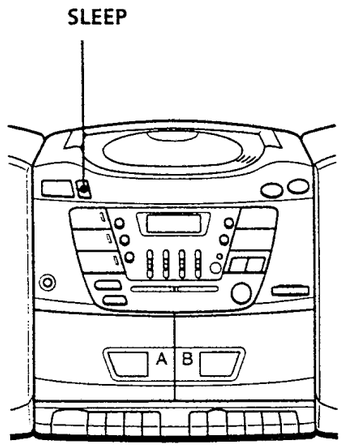
In case of the radio, however, if you listen to the station which is different from the one you tuned in in step 1 on page 17, you will hear that station at the preset time. Make sure to tune in the station you want to listen to before you turn off the player.

To stop play

Press POWER (or OPERATE).

Falling asleep to music

You can set the player to turn off automatically after about 2 hours, allowing you to fall asleep while listening to music.



Tips

- The display window dims while the sleep timer is on.
- When you are playing radio or CD, make sure that ► of the tape player is not depressed.
- You can fall asleep and wake up to different music. First, set the wake up timer by following steps in "Waking up to music" on page 17 . Then, turn the power on and follow the steps on this page to set the sleep timer. When you are listening to the radio, make sure to tune in the station you want to wake up to.

1 Play the music source you want.

2 Press SLEEP.

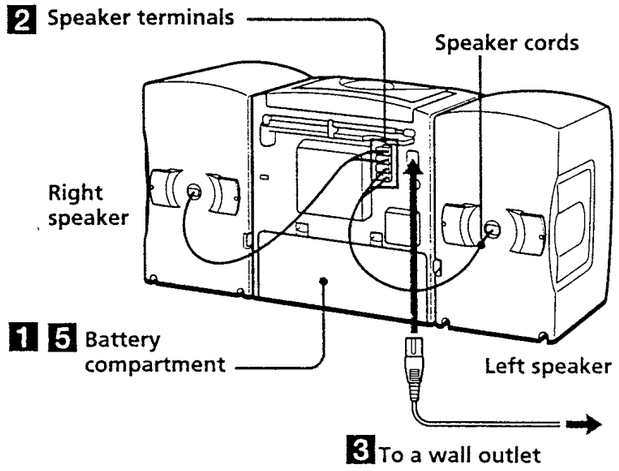
"SLEEP" appears in the display. The player shuts off automatically after about 2 hours.

To cancel the sleep function

Press SLEEP again.

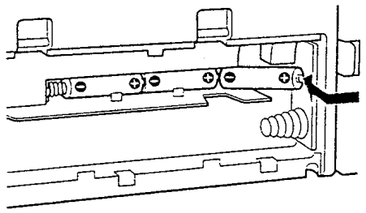
Hooking up the system

Make sure you turn off the power before making any connections.



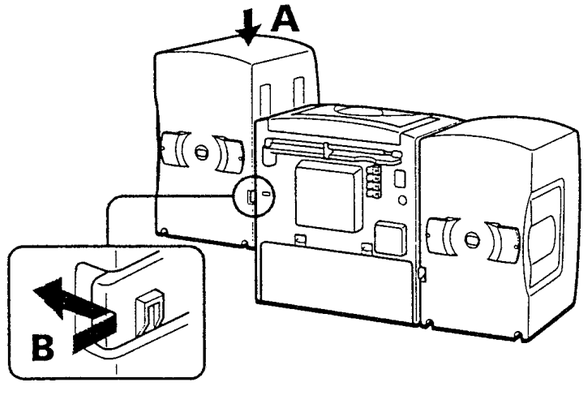
1 Inserting the back-up batteries

Insert three R6 (size AA) batteries (not supplied) into the battery compartment. These batteries work to save the memory data.



2 Hooking up the speakers

1 Align the grooves and slide the speaker box down until it snaps into place A.



Tips

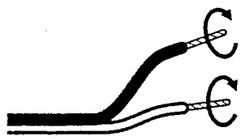
- To detach the speakers, unlock speaker (see B on the diagram) and slide the speaker box all the way up and away from the player.
- Connect the speakers for this unit only to the speaker terminals of this unit. If you connect any other speakers or equipment, malfunction may occur.

Tip

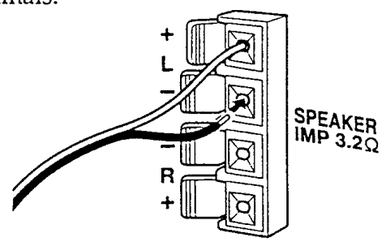
Only for the customers supplied with an AC plug adaptor:

Use the supplied AC plug adaptor if the plug of the AC power cord does not match your outlet.

2 Twist the speaker cable coating and strip it from the end of the cable.



3 Connect the black wires to (–) minus and the red wires to (+) plus terminals; the right speaker wires to the R and the left speaker wires to the L terminals.



3 Connecting the AC power cord

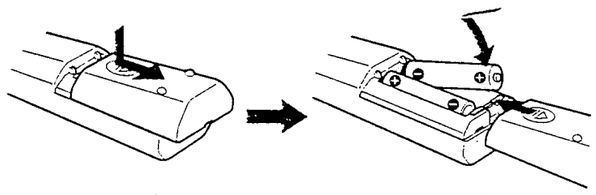
Insert one end of the supplied AC power cord to the AC IN socket located at the rear of the player, and the other end to the wall outlet.

continued

Note

When you operate the player with the batteries, you cannot turn on the player using the remote.

4 Inserting batteries into the remote



Insert two R6 (size AA) batteries (not supplied)

Replacing batteries

With normal use, the batteries should last for about six months. When the remote no longer operates the player, replace all the batteries with new ones.

Note

When you operate the player with batteries, the backlight does not work even if the player is on.

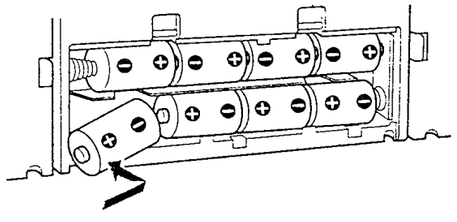
Tip

Replace the batteries when the OPR/BATT indicator dims or when the player stops operating. Replace all the batteries with new ones. Before you replace the batteries, be sure to take out the CD from the player.

5 Using the player on batteries

Insert eight R20 (size D) batteries (not supplied) into the battery compartment.

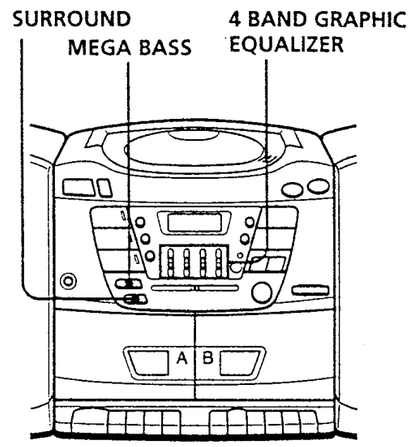
To use the player on batteries, disconnect the AC power cord from the player.



Adjusting the audio emphasis

(MEGA BASS/4 BAND GRAPHIC EQUALIZER/SURROUND)

You can adjust the audio emphasis of the sound you are listening to.



Selecting the sound characteristic

Slide 4 BAND GRAPHIC EQUALIZER to select the audio emphasis you want.

Frequency coverage	Slide the control up (to +10)	Slide the control down (to –10)
400 Hz	to emphasize speaking voice, middle frequencies of instrumental music	to de-emphasize speaking voice, middle frequencies of instrumental music
1 kHz	to provide more presence of vocals	to provide less presence of vocals
4 kHz	to heighten overall brightness of sound	to lessen overall brightness of sound
10 kHz	to increase high treble sounds	to decrease high treble sounds or reduce high frequency noise/tape hiss

Reinforcing the bass sound

Press MEGA BASS.

"MEGA BASS" appears in the display. You can reinforce the bass sound in two steps. To return to normal sound, press the button until "MEGA BASS" disappears form the display.

continued

Adjusting the audio emphasis (MEGA BASS/4 BAND GRAPHIC EQUALIZER/SURROUND) (continued)

Getting the surround effect

Press SURROUND.

The "SURROUND" indication appears in the display.

You can get the surround effect without connecting surround speakers.

Precautions

On safety

- As the laser beam used in the CD player section is harmful to the eyes, do not attempt to disassemble the casing. Refer servicing to qualified personnel only.
- Should any solid object or liquid fall into the player, unplug the player, and have it checked by qualified personnel before operating it any further.

On power sources

- For AC operation, use the supplied AC power cord; do not use any other type.
- The player is not disconnected from the AC power source (mains) as long as it is connected to the wall outlet, even if the player itself has been turned off.
- For battery operation, use eight R20 (size D) batteries.
- When the batteries are not to be used, remove them to avoid damage that can be caused by battery leakage or corrosion.
- The nameplate indicating operating voltage, power consumption, etc. is located at the rear.

On placement

- Do not leave the player in a location near heat sources, or in a place subject to direct sunlight, excessive dust or mechanical shock.
- Do not place the player on an inclined or unstable place.
- Do not place anything within 10 mm of the side of the cabinet. The ventilation holes must be unobstructed for the player to operate properly and prolong the life of its components.
- If the player is left in a car parked in the sun, be sure to choose a location in the car where the player will not be subjected to the direct rays of the sun.
- Since a strong magnet is used for the speakers, keep personal credit cards using magnetic coding or spring-wound watches away from the player to prevent possible damage from the magnet.

On operation

- If the player is brought directly from a cold to a warm location, or is placed in a very damp room, moisture may condense on the lens inside the CD player section. Should this occur, the player will not operate properly. In this case, remove the CD and wait about an hour for the moisture to evaporate.
- If the player has not been used for a long time, set it in the playback mode to warm it up for a few minutes before inserting a cassette.

If you have any questions or problems concerning your player, please consult your nearest Sony dealer.

continued

Notes on CDs

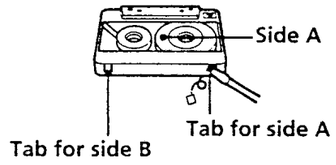
- Before playing, clean the CD with a cleaning cloth. Wipe the CD from the center out.

- Do not use solvents such as benzine, thinner, commercially available cleaners or anti-static spray intended for vinyl LPs.
- Do not expose the CD to direct sunlight or heat sources such as hot air ducts, nor leave it in a car parked in direct sunlight as there can be a considerable rise in temperature inside the car.
- Do not stick paper or sticker on the CD, nor scratch the surface of the CD.
- After playing, store the CD in its case.

If there is a scratch, dirt or fingerprints on the CD, it may cause tracking error.

Notes on cassettes

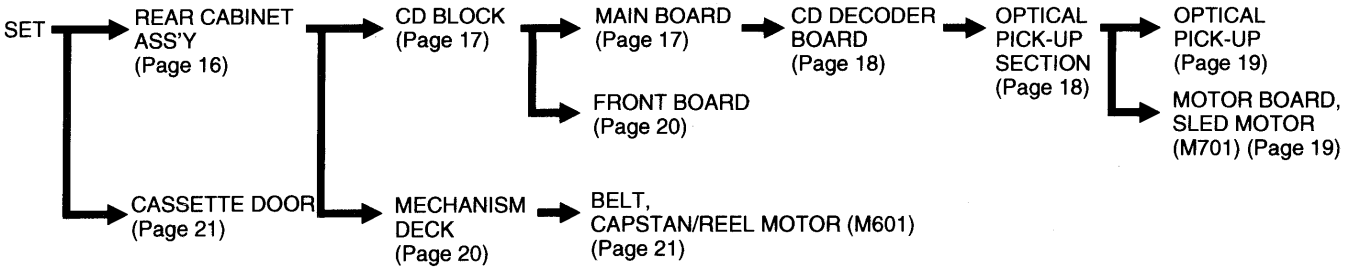
- Break off the cassette tab from side A or B to prevent accidental recording. If you want to reuse the tape for recording, cover the broken tab with adhesive tape.



- To record on a tape with its tab broken off, cover the respective tab hole for side A or B with adhesive tape.
- The use of a cassette with more than 90 minutes of play time is not recommended except for long, continuous recording or playback.

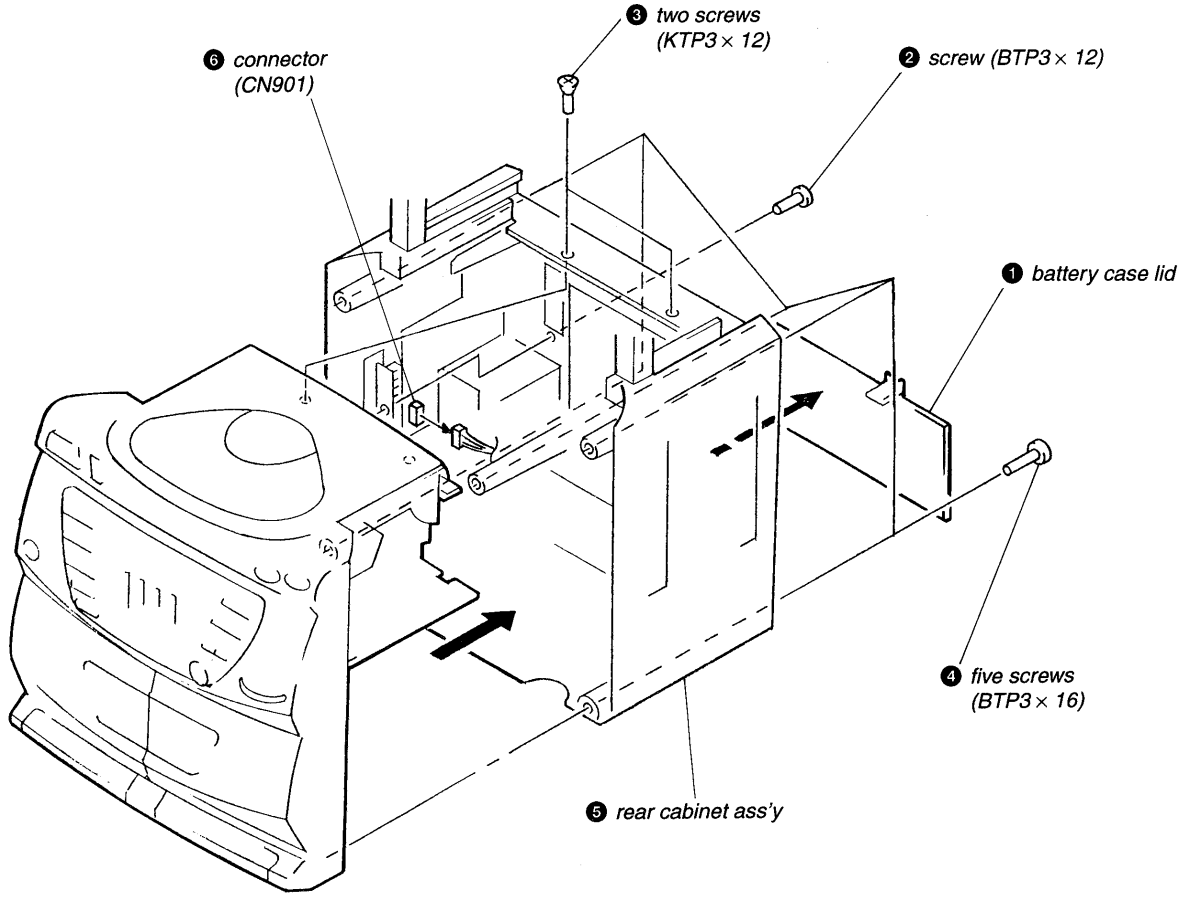
SECTION 3
DISASSEMBLY

• This set can be disassembled in the order shown below.

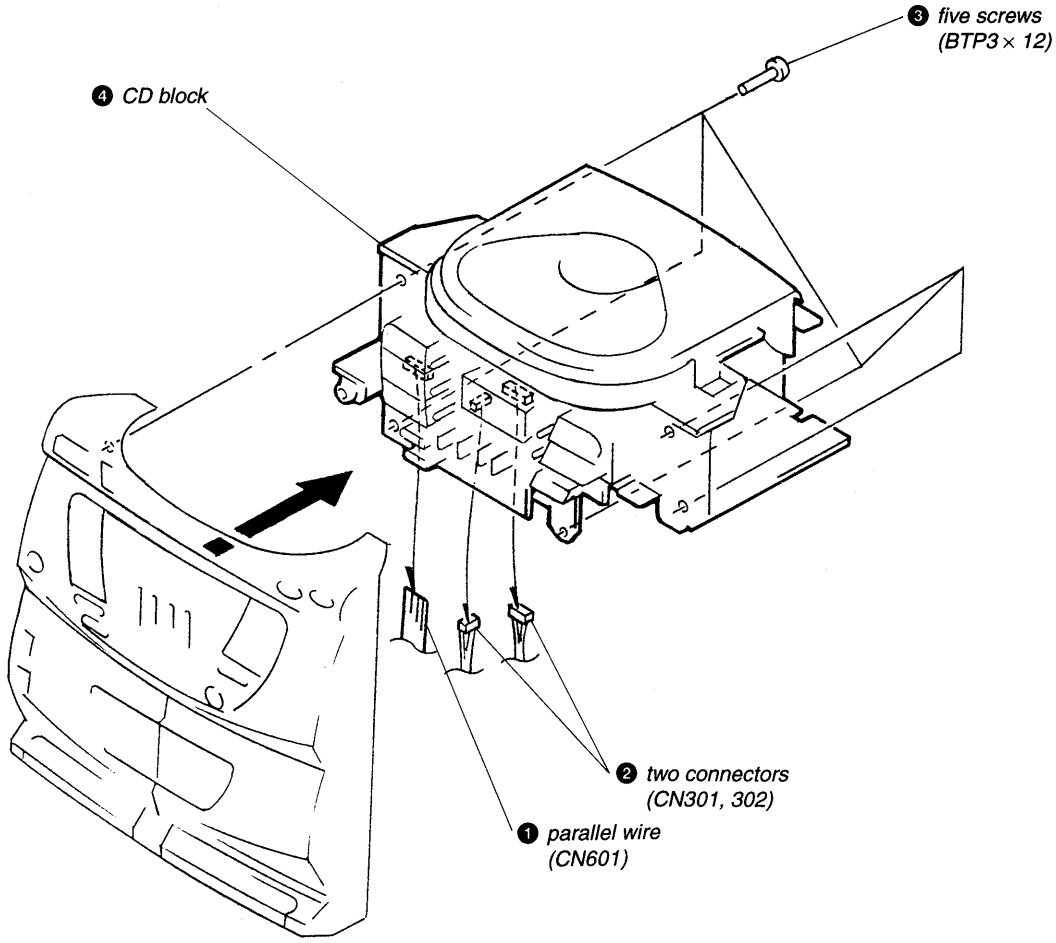

SET
REAR CABINET ASS'Y (Page 16)
CASSETTE DOOR (Page 21)
CD BLOCK (Page 17)
MECHANISM DECK (Page 20)
MAIN BOARD (Page 17)
FRONT BOARD (Page 20)
CD DECODER BOARD (Page 18)
OPTICAL PICK-UP SECTION (Page 18)
OPTICAL PICK-UP (Page 19)
MOTOR BOARD, SLED MOTOR (M701) (Page 19)
BELT, CAPSTAN/REEL MOTOR (M601) (Page 21)

Note: Follow the disassembly procedure in the numerical order given.

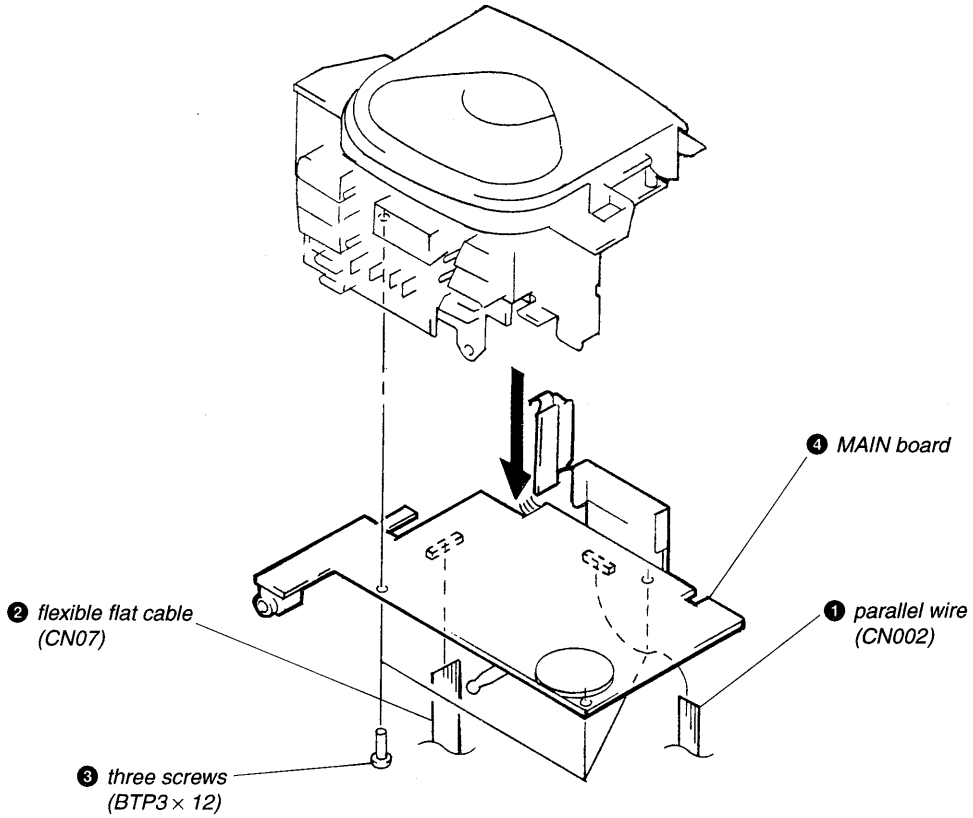
REAR CABINET ASS'Y



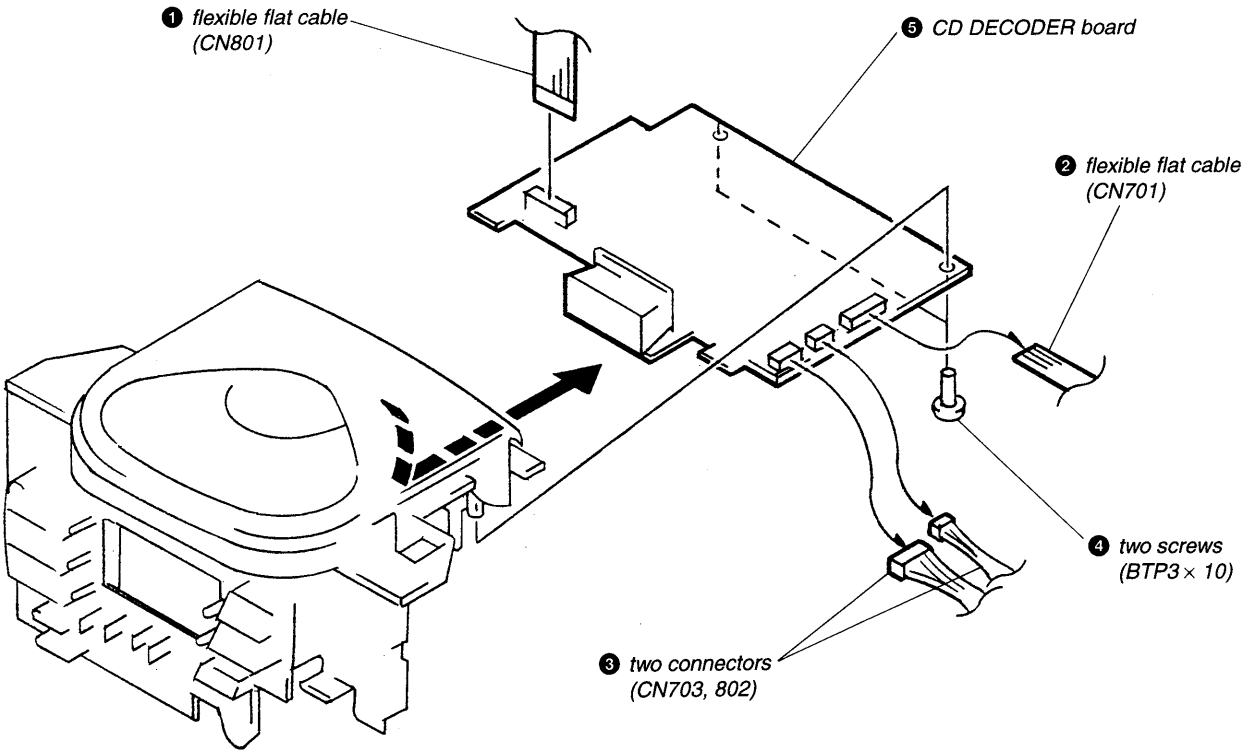
CD BLOCK



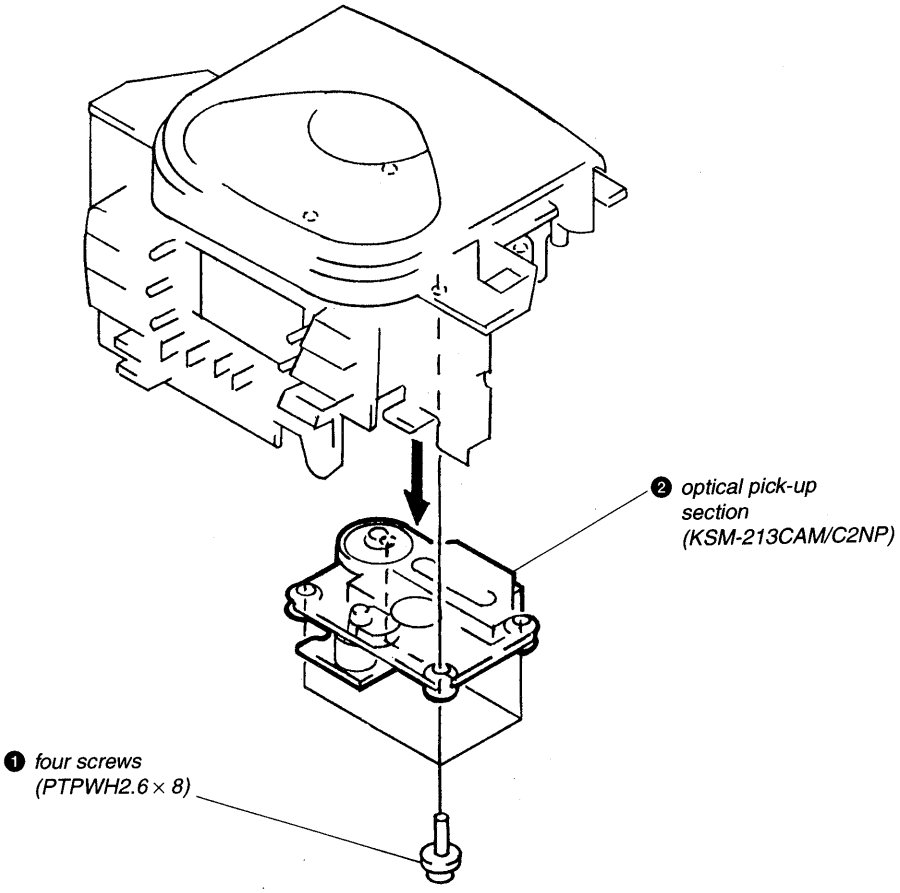
MAIN BOARD



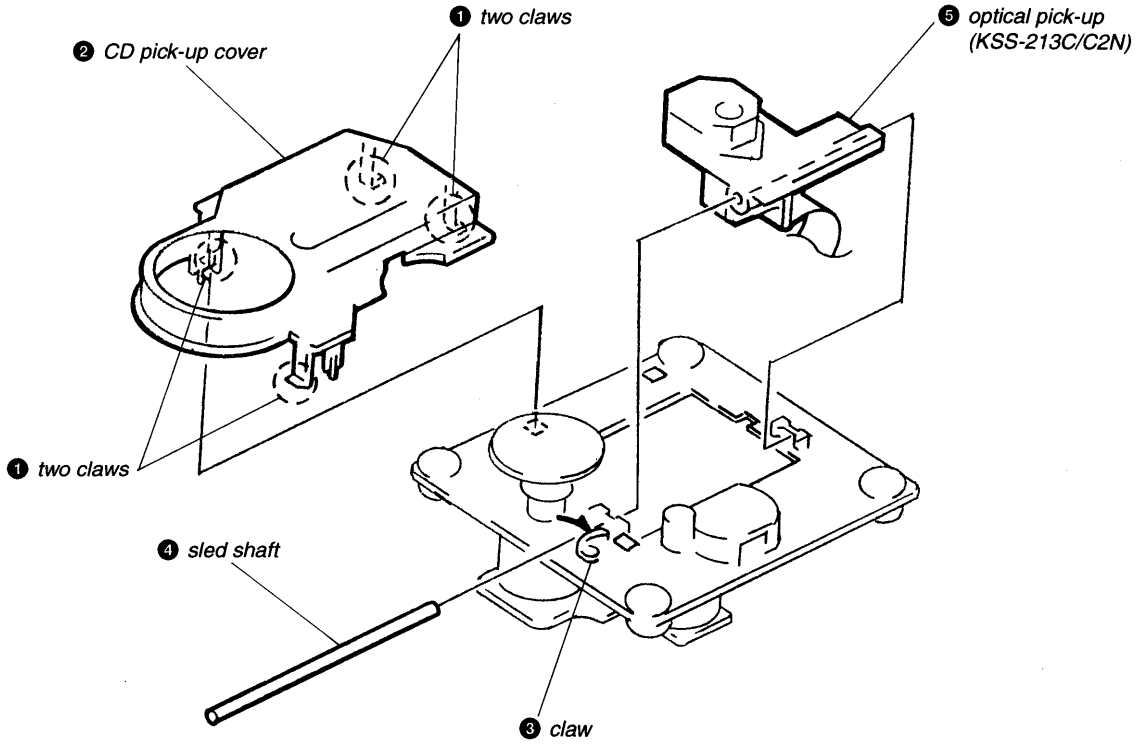
CD DECODER BOARD



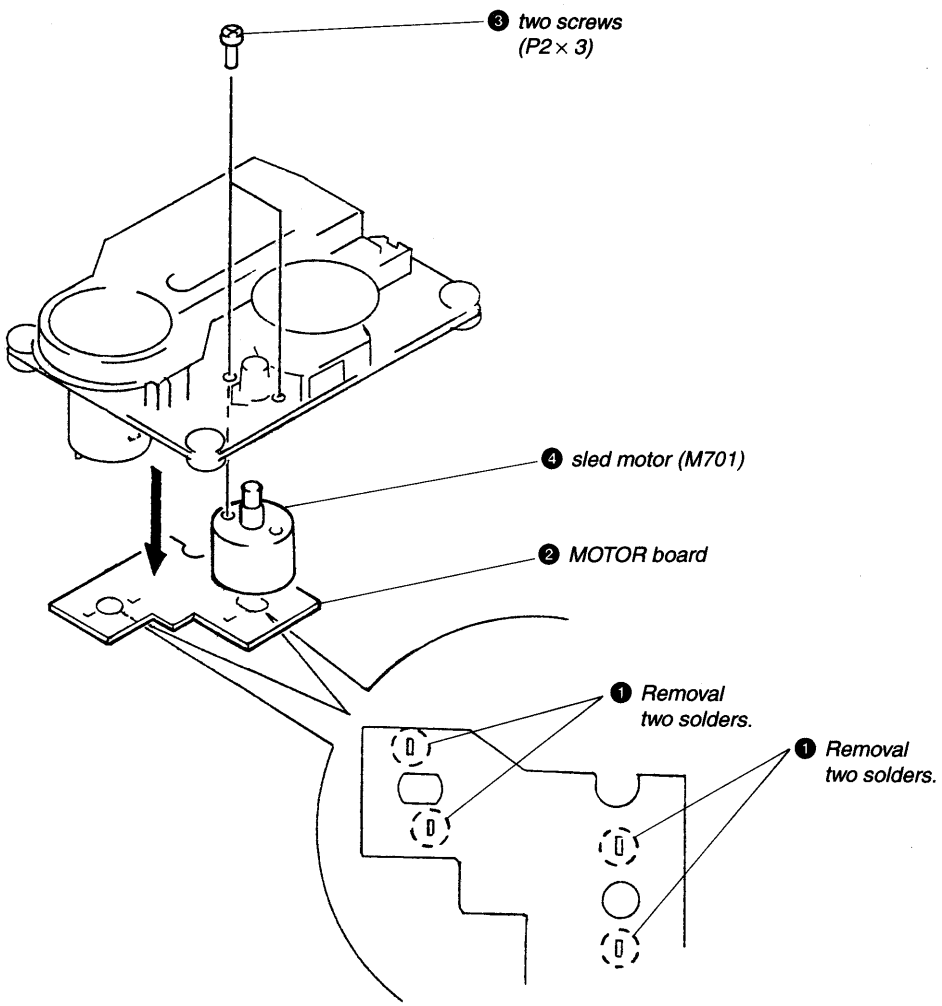
OPTICAL PICK-UP SECTION (KSM-213CAM/C2NP)



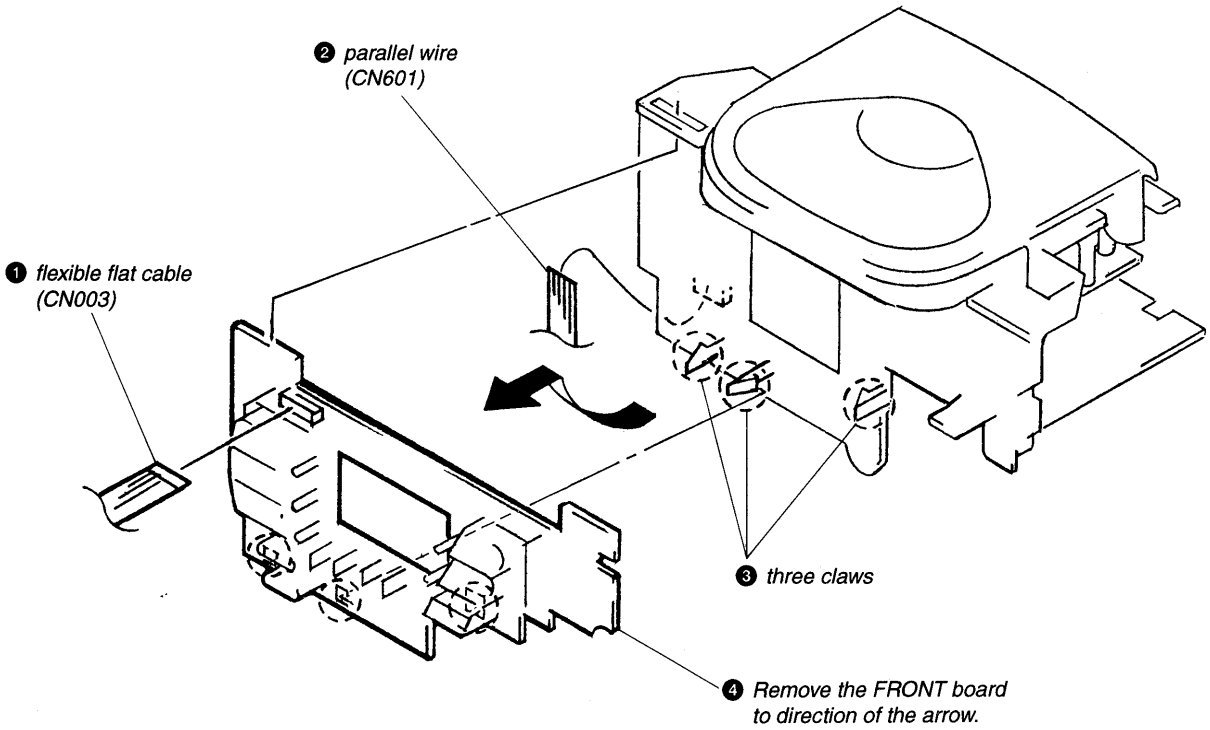
OPTICAL PICK-UP (KSS-213C/C2N)



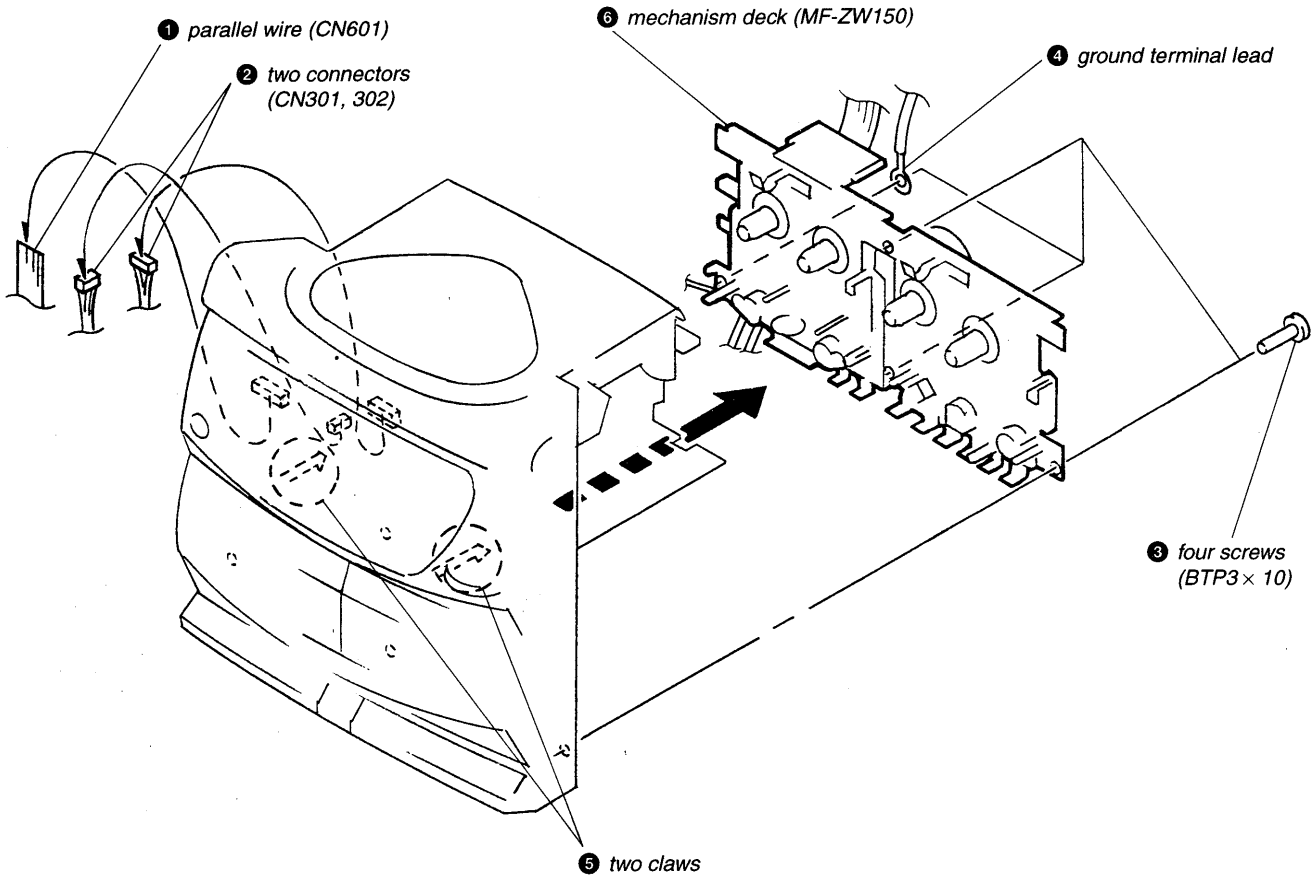
MOTOR BOARD, SLED MOTOR (M701)



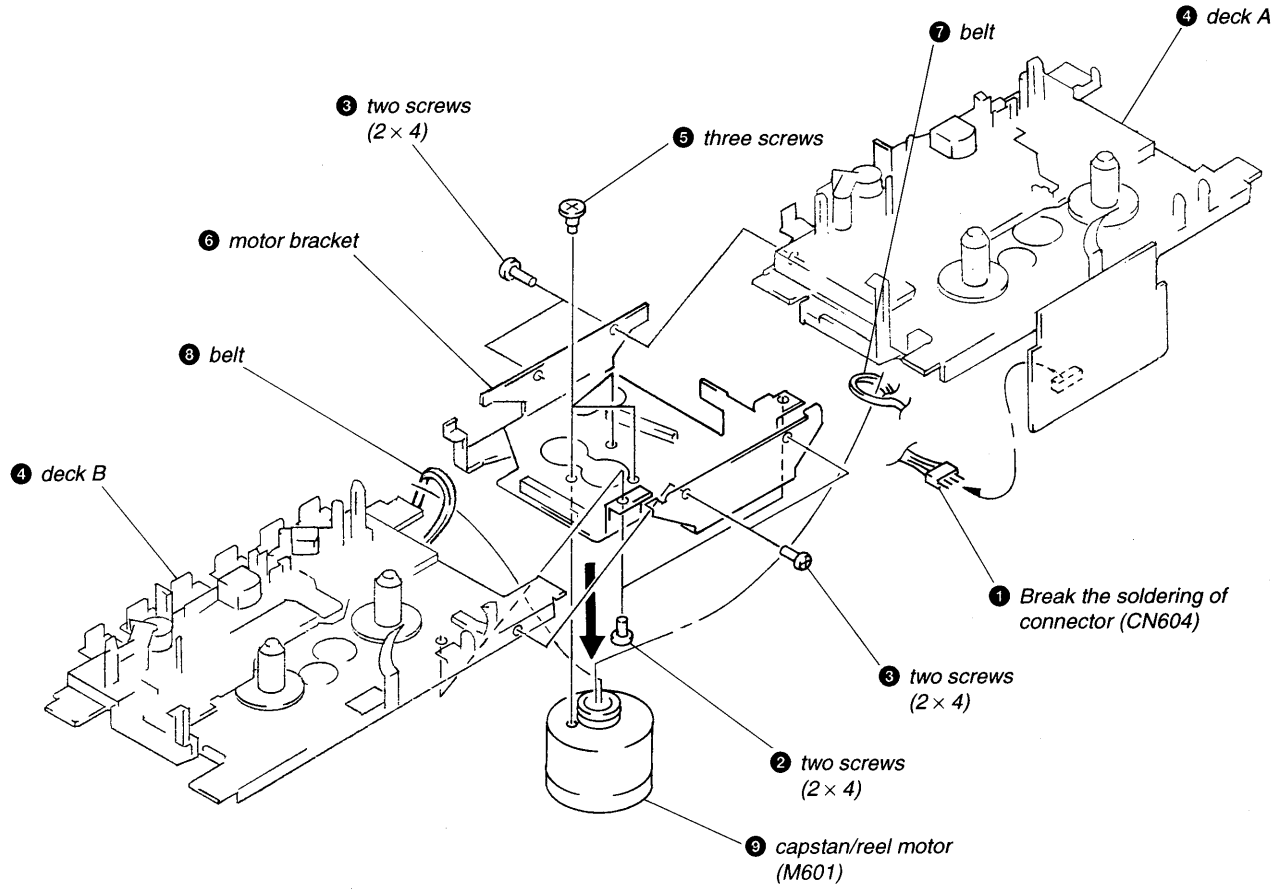
FRONT BOARD



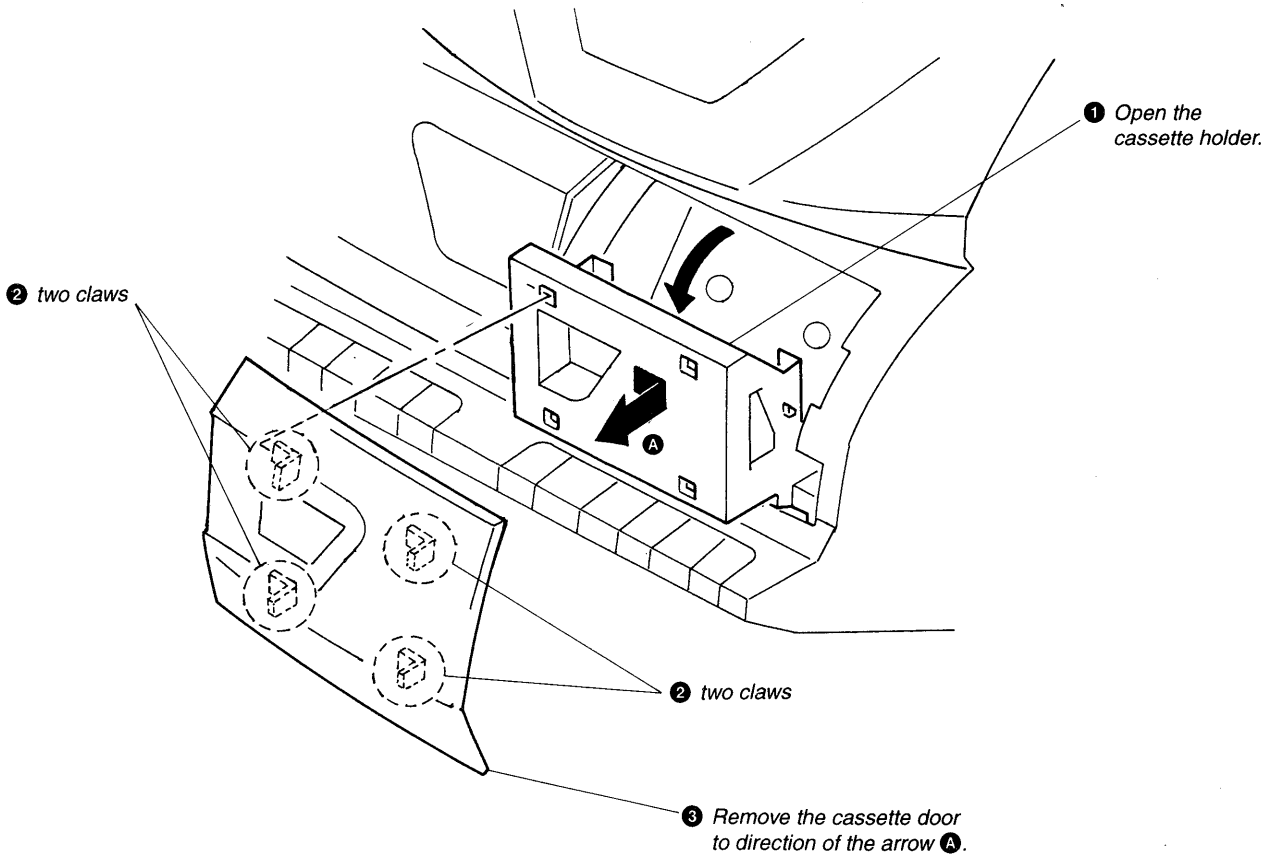
MECHANISM DECK (MF-ZW150)


❶ parallel wire (CN601)
❷ two connectors (CN301, 302)
❻ mechanism deck (MF-ZW150)
❹ ground terminal lead
❸ four screws (BTP3 × 10)
❺ two claws

BELT, CAPSTAN/REEL MOTOR (M601)

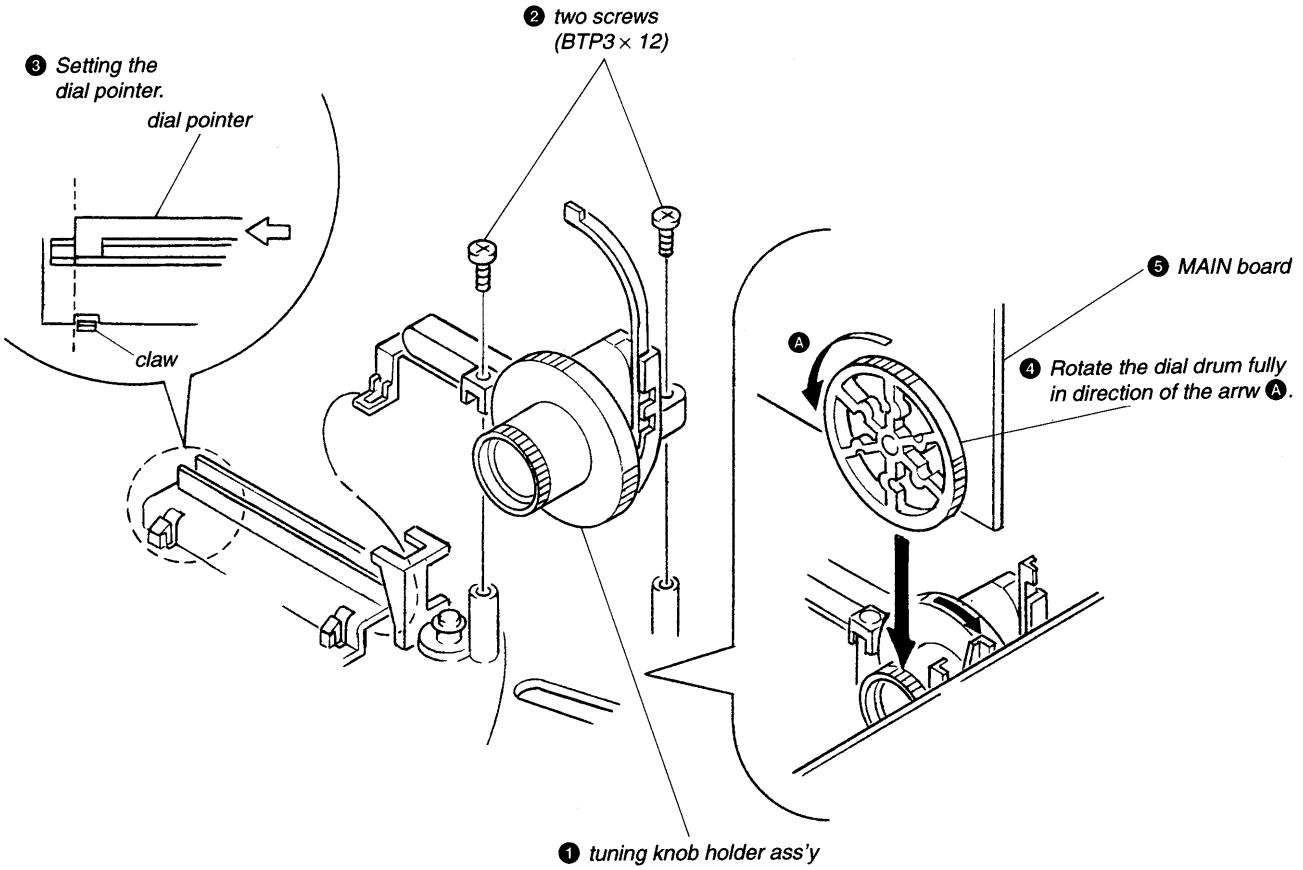

❼ belt
❹ deck A
❸ two screws (2 × 4)
❺ three screws
❻ motor bracket
❽ belt
❹ deck B
❶ Break the soldering of connector (CN604)
❸ two screws (2 × 4)
❷ two screws (2 × 4)
❾ capstan/reel motor (M601)

CASSETTE DOOR



SECTION 4
DIAL POINTER SETTING

Note: Follow the assembly procedure in the numerical order given.



SECTION 5
ADJUSTMENTS

5-1. MECHANICAL ADJUSTMENTS

PRECAUTION

1. Clean the following parts with a denatured-alcohol-moistened swab:
   record/playback head — pinch roller
   erase head — rubber belts
   capstan — idlers
2. Demagnetize the record/playback head with a head demagnetizer. (Do not bring the head demagnetizer close to the erase head.)
3. Do not use a magnetized screwdriver for the adjustments.
4. After the adjustments, apply suitable locking compound to the parts adjusted.
5. The adjustments should be performed with the rated power supply voltage unless otherwise noted.

Torque Measurement

DECK-A DECK-B

Mode	Torque Meter	Meter Reading
FWD	CQ-102C	30 –70 g•cm (0.42 – 0.97 oz•inch)
FWD Back tension		1 – 6 g•cm (0.014 – 0.084 oz•inch)
FF	CQ-201B	more than 55 g•cm (more than 0.76 oz•inch)
REW	CQ-201B	more than 55 g•cm (more than 0.76 oz•inch)

Tape Tension Measurement

DECK-A DECK-B

Mode	Tension Meter	Meter Reading
FWD	CQ-403A	more than 80 g•cm (more than 1.12 oz•inch)

5-2. ELECTRICAL ADJUSTMENTS

TAPE DECK SECTION **0 dB=0.775 V**

1. The adjustments should be perfomed in the order given in the service manual. (As a general rule. Playback circuit adjustment should be completed before performing recording circuit adjustment.)
2. The adjustments should be performed for both L-ch and R-ch unless otherwise indicated.

- Switch Location
  FUNCTION switch ..... TAPE
  MEGA BASS switch ..... OFF
  SURROUND switch ..... OFF
  VOLUME switch ..... maximum

Standard Output Level

	SP OUT	PHONES
Load impedance	3.2Ω	32Ω
Output level	0.775 V (0 dB)	0.25 V (–10 dB)

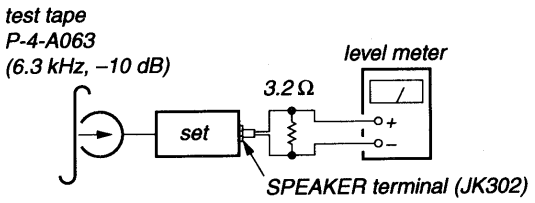
Test Tape

Type	Signal	Used for
WS-48B	3 kHz, 0 dB	Tape speed adjustment
P-4-A063	6.3 kHz, –10 dB	Head azimuth adjustment

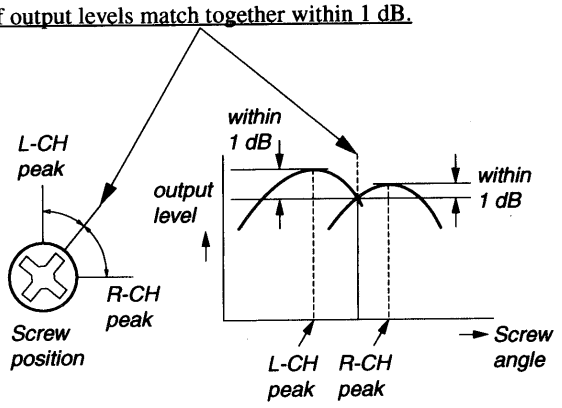
Record/Playback Head Azimuth Adjustment DECK-A DECK-B

Procedure:

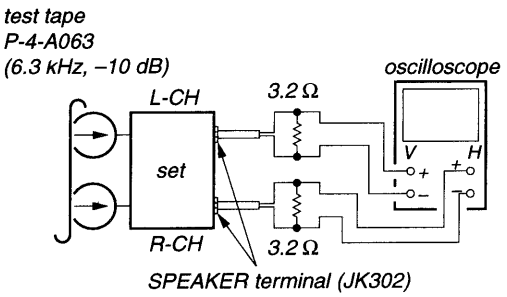
1. Mode: playback

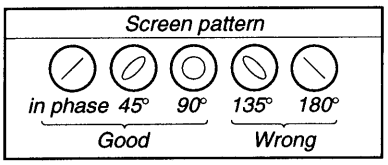


2. Turn the adjustment screw for the maximum output levels. If these levels do not match, turn the adjustment screw until both of output levels match together within 1 dB.



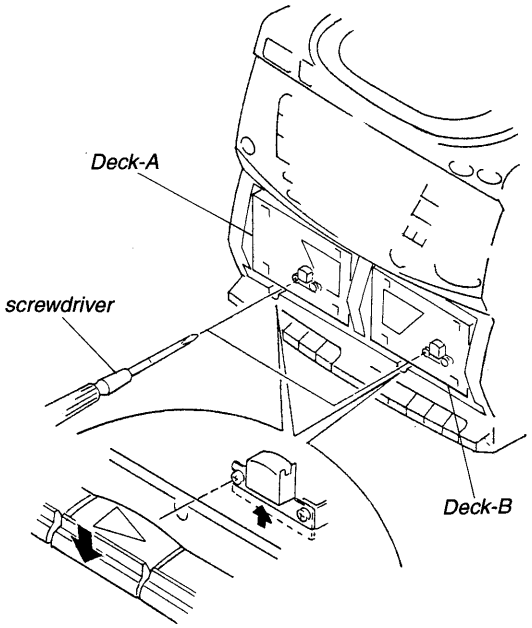
3. Phase Check
Mode: playback





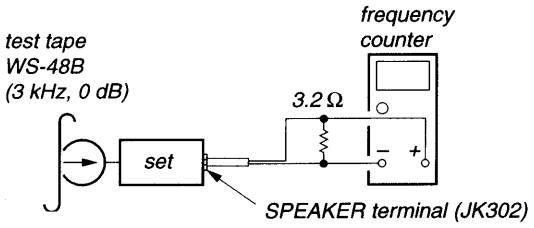
4. After the adjustment, lock the screws with locking compound.

Adjustment Location:



Tape Speed Adjustment DECK-A DECK-B

Procedure:
Mode: playback



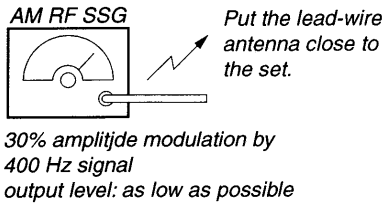
Adjustment Values:

Adjustment part	Frequency counter
SFR301	3,000 Hz

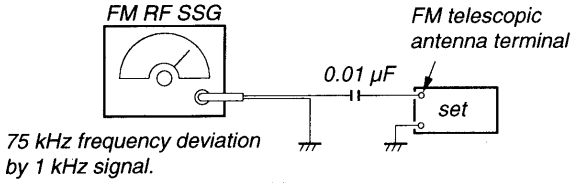
Adjustment Location: MAIN board (See page 26.)

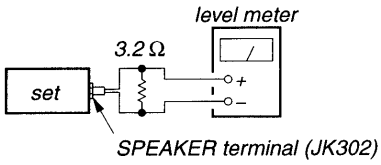
TUNER SECTION

[AM]


AM RF SSG
Put the lead-wire antenna close to the set.
30% amplitjde modulation by 400 Hz signal
output level: as low as possible

[FM]


FM RF SSG
FM telescopic antenna terminal
0.01 µF
set
75 kHz frequency deviation by 1 kHz signal.
output level: as low as possible



- Repeat the procedures in each adjustment several times, and the frequency coverage and tracking adjustments should be finally done by the trimmer capacitors.

( ): Italian Model
< >: East European and Russian Models

AM IF ADJUSTMENT	
Adjust for a maximum reading on level meter.	
T1	455 kHz

LW FREQUENCY COVERAGE ADJUSTMENT	
Adjust for a maximum reading on level meter.	
L8	145 kHz (140 kHz)
CT10	295 kHz (293 kHz)

LW TRACKING ADJUSTMENT	
Adjust for a maximum reading on level meter.	
L3-2	160 kHz
CT5	260 kHz

MW FREQUENCY COVERAGE ADJUSTMENT	
Adjust for a maximum reading on level meter.	
L4	520 kHz (516 kHz)
CT4	1,680 kHz (1,630 kHz)

MW TRACKING ADJUSTMENT	
Adjust for a maximum reading on level meter.	
L3-1	600 kHz
CT3	1,400 kHz

FM FREQUENCY COVERAGE ADJUSTMENT	
Adjust for a maximum reading on level meter.	
L2	87.6 MHz (87.2 to 87.5 MHz) < 64.0 MHz >
CT2	107.0 MHz (108.0 to 108.5 MHz) < 109.5 MHz >

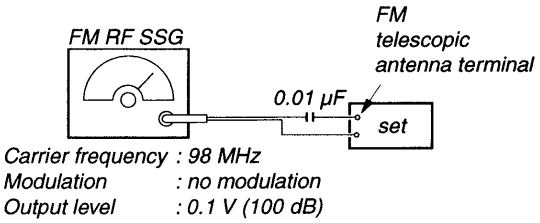
FM TRACKING ADJUSTMENT	
Adjust for a maximum reading on level meter.	
L1	87.6 MHz (87.2 to 87.5 MHz) < 68.0 MHz >
CT1	107.87 MHz (108.0 to 108.5 MHz) < 102 MHz >

Adjustment Location: MAIN board (See page 26.)

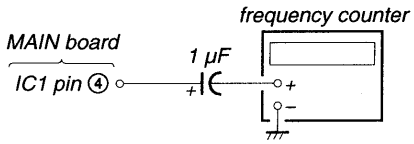
FM VCO Adjustment

Procedure:

STEREO MODE switch (SW301): STEREO

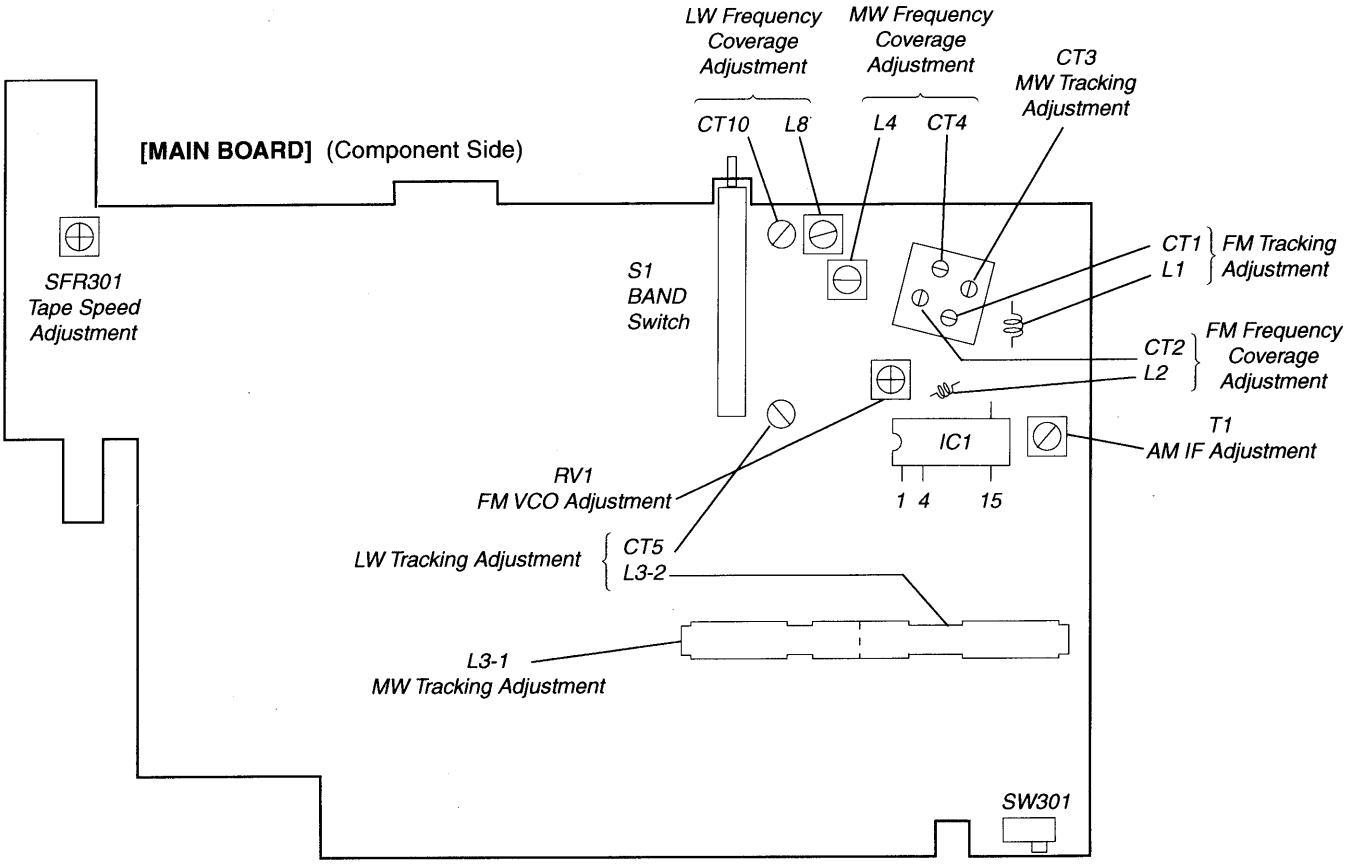


1. Connect the frequency counter to pin ④ of IC1 as shown the figure below.
2. Tune the set to 98 MHz.
3. Adjust RV1 for 75.5 to 76.5 kHz reading on the frequency counter.



Adjustment Location: MAIN board (See page 26.)

Adjustment Location:



CD SECTION

Notes on Adjustment

1. Perform adjustment in test mode.
   After adjustments, be sure to release test mode.
2. Perform adjustments in the order given.
3. Use the disc (YEDS-18. Part No. 3-702-101-01) only when so indicated.

How to Put the Set into Test Mode

1. Short-circuit the TP (TEST1) and TP (TEST2) on the FRONT board.
2. Insert the AC plug cord into the power outlet and turned ON the power switch.
3. The LCD display change in 5 ways, and stop when they all light up. (The unit sets in the test mode after the above steps.)
4. Remove the short-circuit connected in step 1.

How to Release the Test Mode

1. Turn OFF the power switch (S851).
2. The set thus becomes available for normal operation.

Before Begining Adjustment

Put the set into test mode and perform the following checks. Repair if there are any problems.

• Sled Motor Check

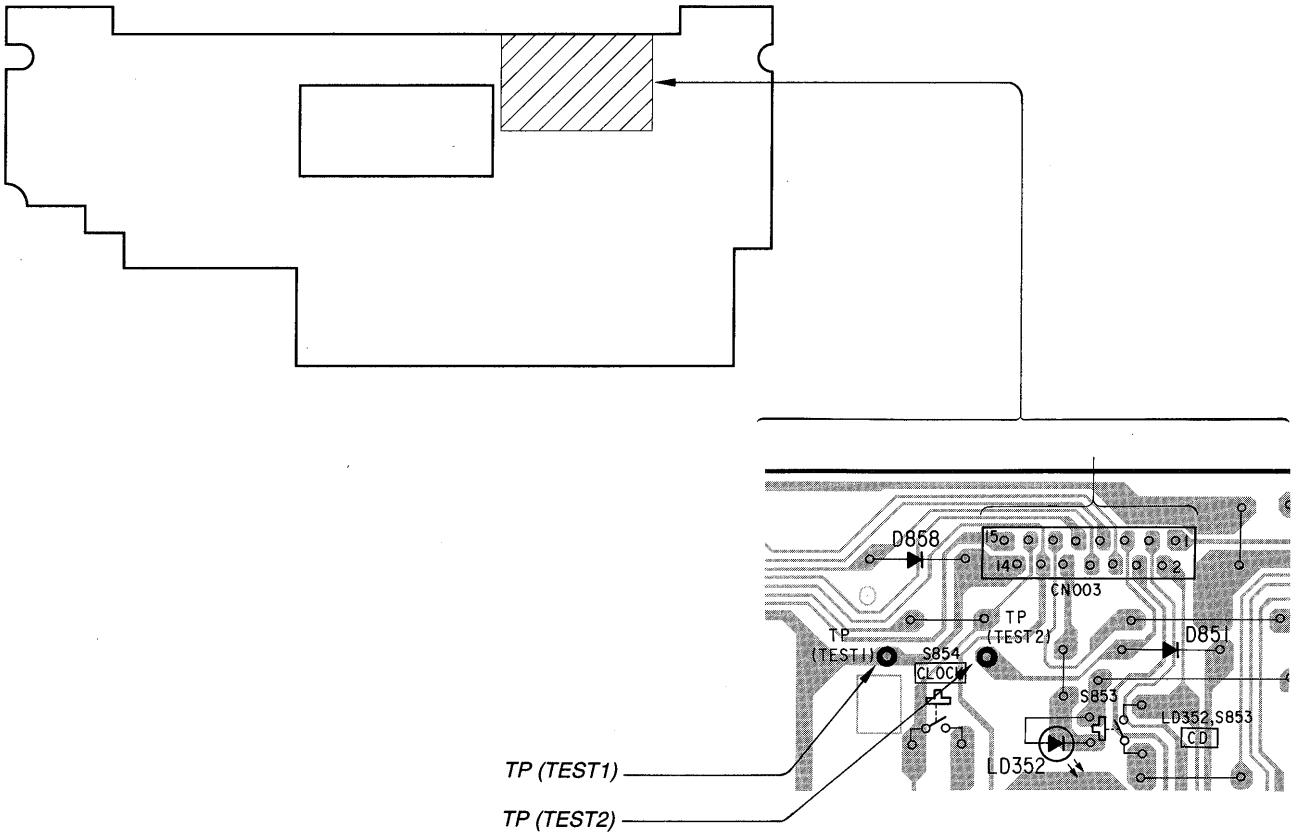
Press the ▷▷|, |◁◁ buttons and confirm that the optical pick-up moves smoothly from the innermost to outermost circumference and back smoothly and with no catching or abnormal noises.

▷▷| : Optical pick-up moves to the outer circumference
|◁◁ : Optical pick-up moves to the inner circumference

• Focus Search Check

1. Press the ▷II button. (Focus search operation is performed continuously.)
2. Look at the optical pick-up objective lens and confirm that it moves up and down smoothly, when no catching or abnormal noises.
3. Press the □ button.
   Confirm that focus search operation stops. If it does not , press the □ button again longer.

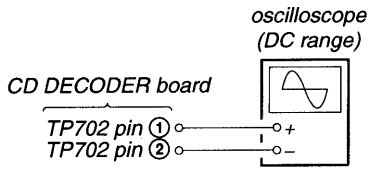
[FRONT BOARD] (Conductor Side)



E-F Balance Adjustment

This adjustment is to be done when the optical pick-up is replaced.

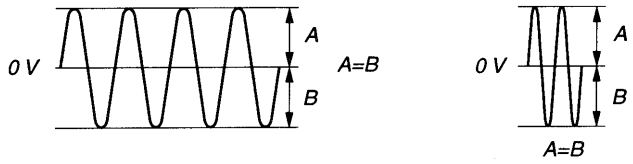
Procedure:



1. Connect the oscilloscope to TP702 pin ① and pin ② on the CD DECODER board.
2. Put the disc (YEDS-18).
3. Put the set into test mode. (See page 27.)
4. Press the ▷▷| and |◁◁ buttons to move the optical pick-up to the center.
5. Press the ▷|| button.
   [From focus searching, focus is turned ON while entering CLV drawing-in mode. Tracking and sled are turned OFF.]
6. Adjust VR702 so that the oscilloscope traverse waveform is symmetrical, as shown in the figure below.

Note: *Take long sweep time for easy monitoring.*

VOLT/DIV: 0.2 V (with the 10:1 probe in use.)
TIME/DIV: 1 ms



Adjustment value: 0.5 ± 0.2 Vp-p (A + B)

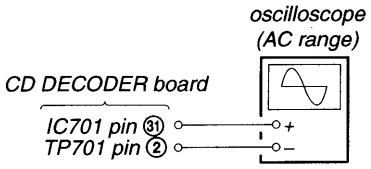
7. Release the test mode after adjustment is completed.

Adjustment Location: CD DECODER board (See page 29.)

Focus Bias Adjustment

This adjustment is to be done when the optical pick-up is replaced.

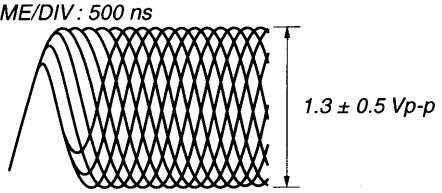
Procedure:



1. Connect the oscilloscope IC701 pin ㉛ and TP701 pin ② on the CD DECODER board.
2. Put the disc (YEDS-18).
3. Put the set into test mode. (See page 27.)
4. Press ▷▷| and |◁◁ buttons to move the optical pick-up to the center. (Move the optical pick-up to the music area on the disc to enable easy visibility of the eye pattern.)
5. Press the ▷|| button.
   [From focus searching, focus is turned ON while entering CLV drawing-in mode. Tracking and sled are turned OFF.]
6. Press the ▷|| button.
   [Both tracking and sled are turned ON.]
7. Adjust VR701 so that the oscilloscope waveform is as shown in the figure below. (eye pattern)
   A good eye pattern means that the diamond shape (◇) in the center of the waveform can be clearly distinguished.

• RF signal reference waveform (eye pattern)

VOLT/DIV: 0.2 V (with the 10:1 probe in use.)
TIME/DIV: 500 ns



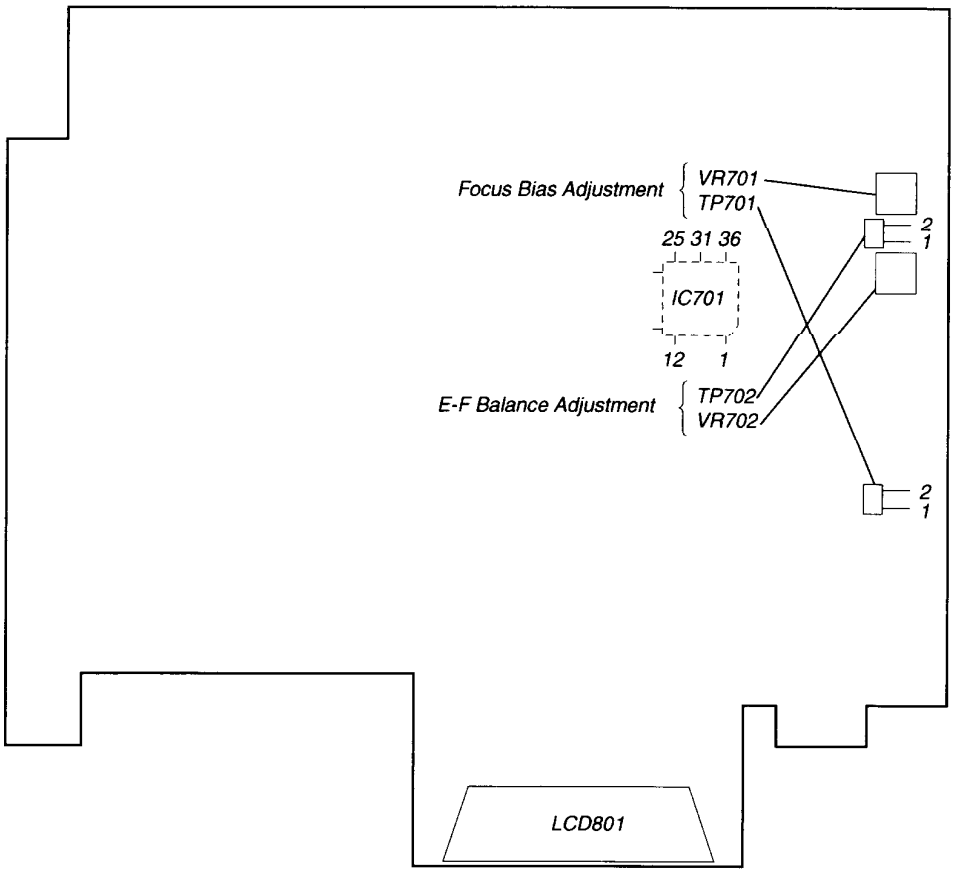
When observing the eye pattern, set the oscilloscope for AC range and raise vertical sensitivity.

8. Release the test mode after adjustment is complet

Adjustment Location: CD DECODER board (See page 29.)

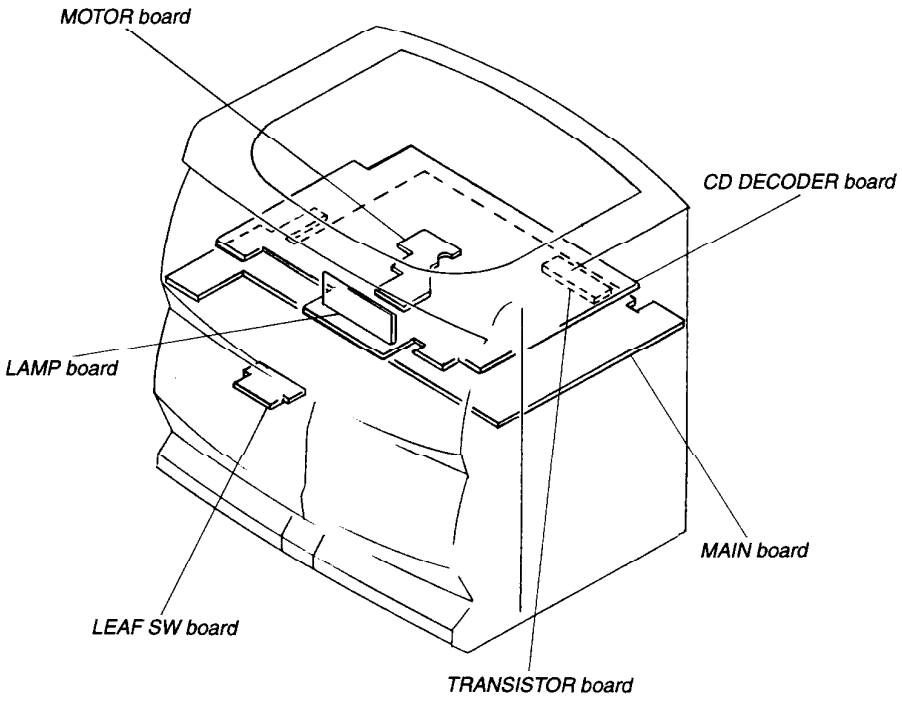
Adjustment Location:

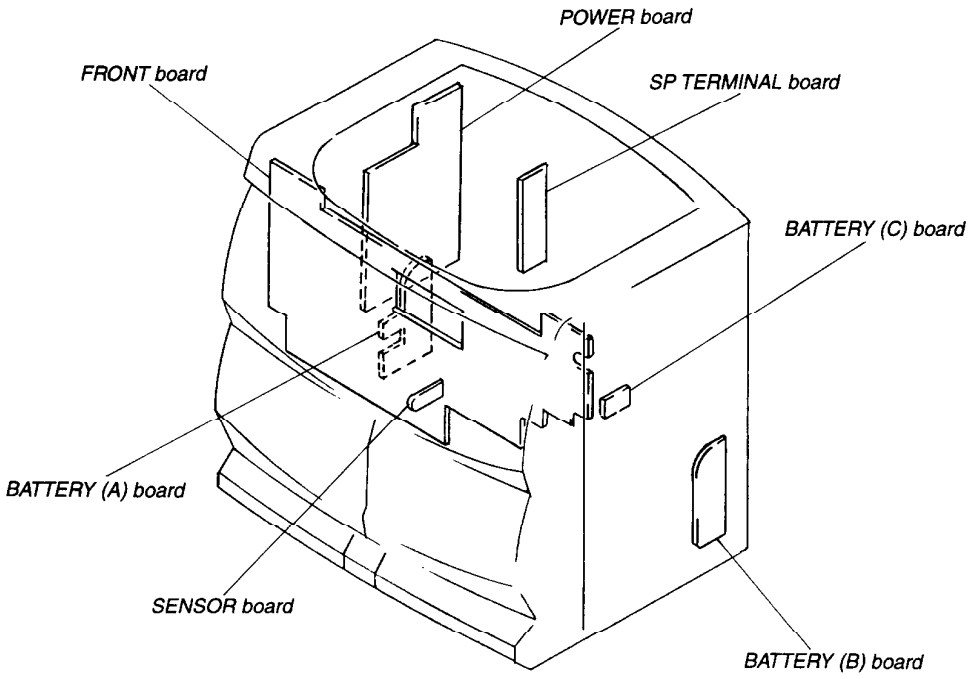
[CD DECODER BOARD] (Component Side)



SECTION 6
DIAGRAMS

• **Circuit Boards Location**





6-1. IC PIN FUNCTION DESCRIPTION

• CD DECODER BOARD IC801 LC5876-1J64 (SYSTEM CONTROLLER, LED/LIQUID CRYSTAL DISPLAY DRIVER, KEY CONTROL)

Pin No.	Pin Name	I/O	Function
1	COM 2	O	Common drive signal output to the liquid crystal display (LCD801)
2	COM 1	O	Common drive signal output to the liquid crystal display (LCD801)
3	CUP1		Connected to coupling capacitor for the liquid crystal display (LCD801) of power supply
4	CUP2	—	Connected to coupling capacitor for the liquid crystal display (LCD801) of power supply
5	$\overline{\text{RESET}}$	I	Reset signal input from the reset signal generator (IC802) "L": reset For several hundreds msec. after the power supply rises, "L" is input, then it changes to "H"
6	$\overline{\text{REM IN}}$	I	Remote control signal input from the remote control receiver (SEN851) "L" active
7	SQSO	I	Sub-code Q data signal input from the CXD2508Q (IC702)
8	DATA	O	Serial data output to the CXD2508Q (IC702)
9	SQCK, CLOK	O	Sub-code Q data reading clock signal and serial data transfer clock signal output to the CXD2508Q (IC702)
10	COUNT	I	Track number count signal input terminal Not used (fixed at "H")
11	SCOR	I	Sub-code sync (S0+S1) detection signal input from the CXD2508Q (IC702)
12	SENS	I	Internal status (SENSE) signal input from the CXD2508Q (IC702)
13	GFS	I	Guard frame sync signal input from the CXD2508Q (IC702) "L": NG, "H": OK
14	FOK	I	Focus OK signal input from the CXA1782BQ (IC701) "L": NG, "H": OK
15	TAPE DIRECTION	I	Detection signal input of the tape direction "L": REV, "H": FWD Not used
16	$\overline{\text{STEREO IN}}$	I	Stereo detection signal input from the CXA1238S (IC1) "L": stereo
17	SYNC REC IN	I	Detection signal input from the REC switch (S301) "H": REC
18	WP IN (REG CHECK)	I	Wake-up signal input terminal "H": AC input, "L": using for the dry battery
19	XT OUT	O	Sub system clock output terminal (32.768 kHz) (for clock)
20	XT IN	I	Sub system clock input terminal (32.768 kHz) (for clock)
21	VDD2	—	Power supply terminal (Connected to coupling capacitor)
22	VDD1	—	Power supply terminal (Connected to coupling capacitor)
23	VSS	—	Ground terminal
24	VDD	—	Power supply terminal (+5V)
25	CF IN	I	Main system clock input terminal (4 MHz)
26	CF OUT	O	Main system clock output terminal (4 MHz)
27	KEY IN 1	I	Key return signal input terminal ("L" active) *1
28	KEY IN 2	I	
29	KEY IN 3	I	
30	KEY IN 4	I	
31	KEY IN 5	I	
32	KEY IN 6	I	
33	KEY IN 7	I	
34	KEY IN 8	I	
35	KEY IN 9	I	
36	M2	I	Not used (fixed at "H")
37	M3	I	Not used (fixed at "H")
38	CD SW	I	Detection signal input from the CD lid open/close detect switch (S702) The CD lid is closed when "L"
39	CD	O	LED drive signal output to the CD indicator (LD352) "L": CD, "H": others function
40	TAPE	O	LED drive signal output to the TAPE indicator (LD351) "L": others function, "H": TAPE

Pin No.	Pin Name	I/O	Function
41	RADIO	O	Power on/off control signal output for the tuner circuit power supply "L": others function, "H": RADIO
42	BACK LIGHT	O	Back light on/off control signal output terminal "H": back light on
43	VSS	—	Ground terminal
44	POWER SW OUT	O	Power on/off control signal output for the main power supply "H": power on
45	SYSTEM MUTE OUT	O	Audio mute on/off control signal output terminal "H": mute on
46	MEGA BASS 1	O	Mega bass 1 control signal output terminal "H": on Not used (open)
47	MEGA BASS 2	O	Mega bass 2 control signal output terminal "H": on Not used (open)
48	SURROUND	O	Surround on/off control signal output terminal "H": on
49	CLK OUT	O	Serial data transfer clock signal output to the LC75392 (IC304)
50	DATA OUT	O	Serial data output to the LC75392 (IC304)
51	CE OUT	O	Chip enable signal output to the LC75392 (IC304) "L": address, "H": data
52	XLAT	O	Serial latch pulse signal output to the CXD2508Q (IC702) "H" active
53	$\overline{\text{XRST}}$	O	Reset signal output to the CXA1782BQ (IC701) and CXD2508Q (IC702) "L": reset
54	MUTE	O	Mute on/off control signal output to the CXD2508Q (IC702) "H": mute on
55	—	O	Not used (open)
56	KEY SCAN OUT 1	O	Key scan signal output terminal ("L" active) *1
57	KEY SCAN OUT 2	O	
58	KEY SCAN OUT 3	O	
59	—	O	Not used (open)
60 to 78	SEG 19 to SEG 1	O	Segment drive signal output to the liquid crystal display (LCD801)
79	COM 4	O	Common drive signal output to the liquid crystal display (LCD801)
80	COM 3	O	Common drive signal output to the liquid crystal display (LCD801)

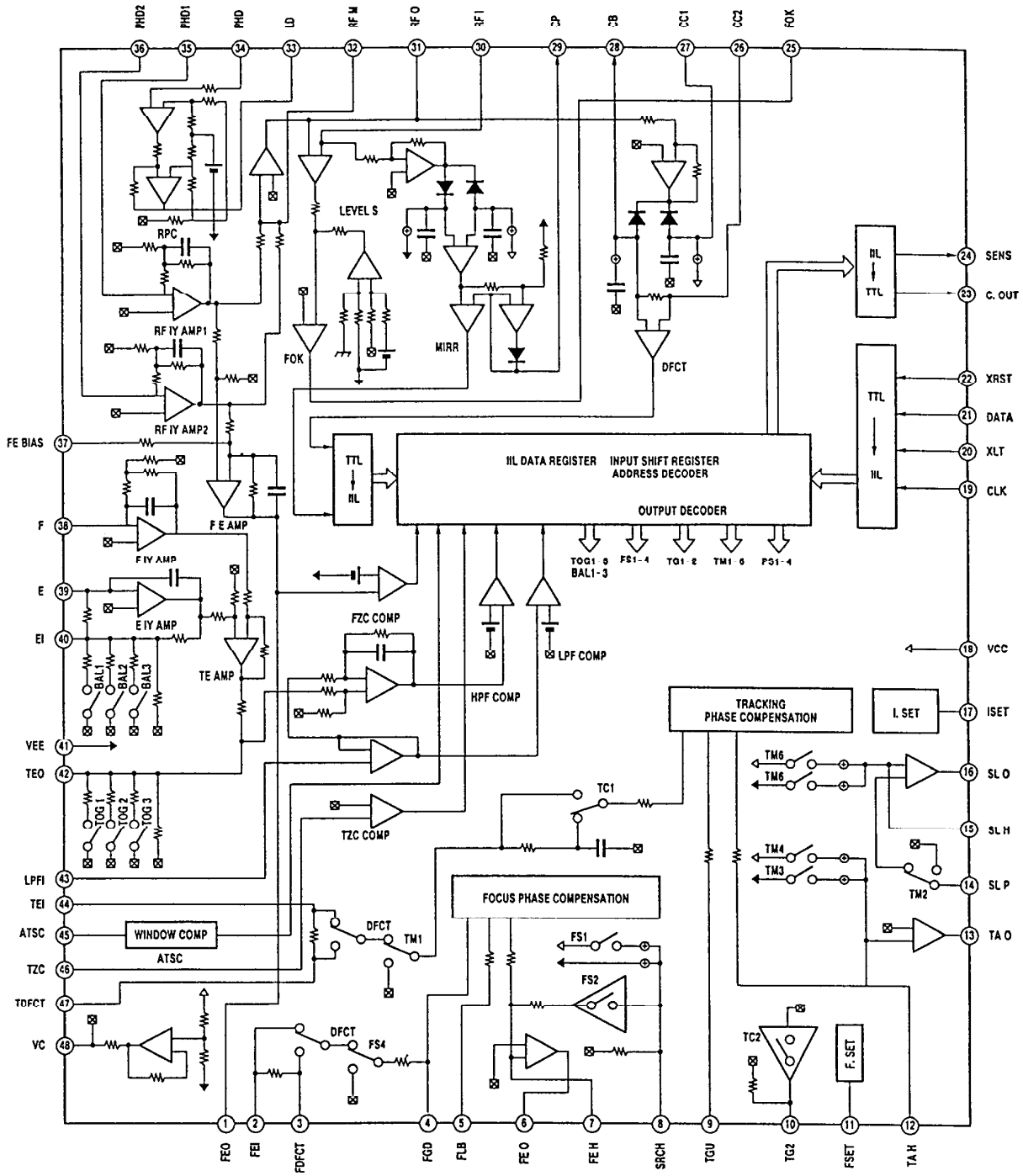
*1 KEY MATRIX TABLE

	KEY SCAN OUT 1 (pin ⑯)	KEY SCAN OUT 2 (pin ⑰)	KEY SCAN OUT 3 (pin ⑱)
KEY IN 1 (pin ㉗)	POWER	SLEEP	—
KEY IN 2 (pin ㉘)	CD	CLOCK	—
KEY IN 3 (pin ㉙)	TAPE	TIMER	—
KEY IN 4 (pin ㉚)	RADIO	STANDBY	—
KEY IN 5 (pin ㉛)	MEGA BASS	SURRROND	Mode-1
KEY IN 6 (pin ㉜)	VOLUME +	VOLUME –	Mode-2
KEY IN 7 (pin ㉝)	▷ II	PLAY MODE	Mode-3
KEY IN 8 (pin ㉞)	□	DISPLAY/ENTER	—
KEY IN 9 (pin ㉟)	▷▷I TIME SET +	I◁◁ TIME SET –	Mode-4

Mode No.	Function	SHORT	OPEN	In this set
Mode-1	TEST MODE	TEST MODE	NORMAL MODE	Open
Mode-2	SURROND	Provided	Not provided	Short
Mode-3	AUTO REVERSE	Provided	Not provided	Open
Mode-4	TIME DISPLAY SYSTEM	12H	24H	12H

• IC Block Diagrams – CD Section –

IC701 CXA1782BQ



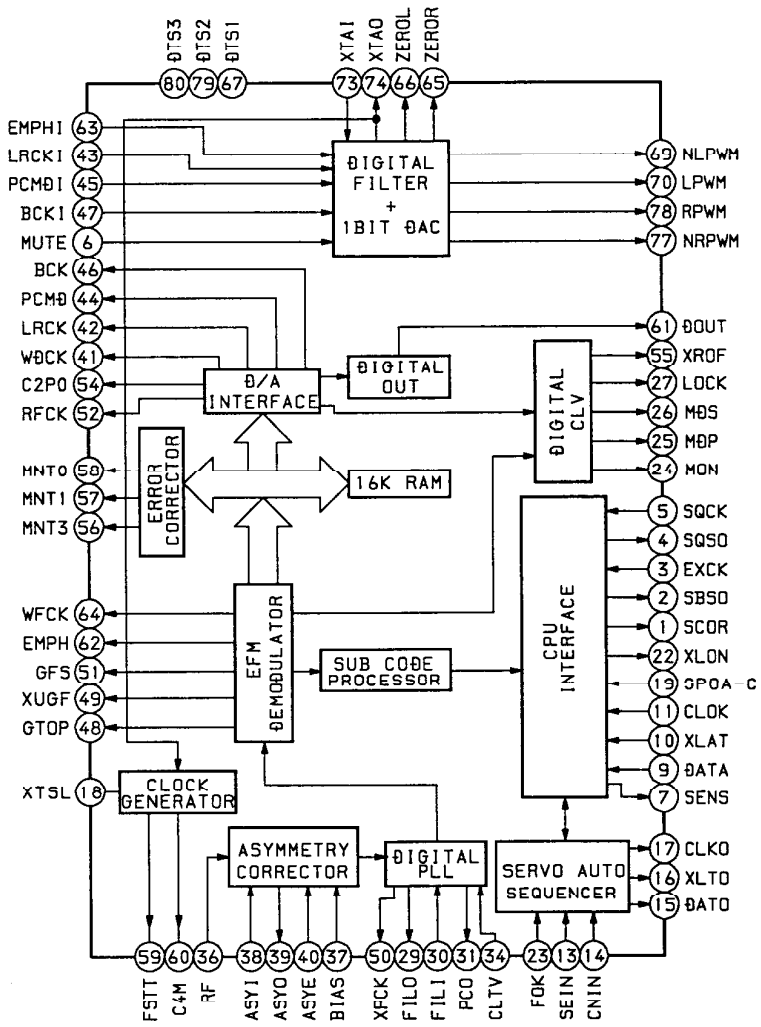
• Semiconductor Location

Ref. No.	Location
D701	B-3
D704	B-8
D707	A-7
D801	E-5
IC701	C-4
IC702	C-7
IC703	E-4
IC705	A-5
IC801	F-5
IC802	E-9
Q701	B-3
Q702	A-3
Q703	E-9
Q704	B-8
Q705	B-8
Q706	E-9
Q707	E-9

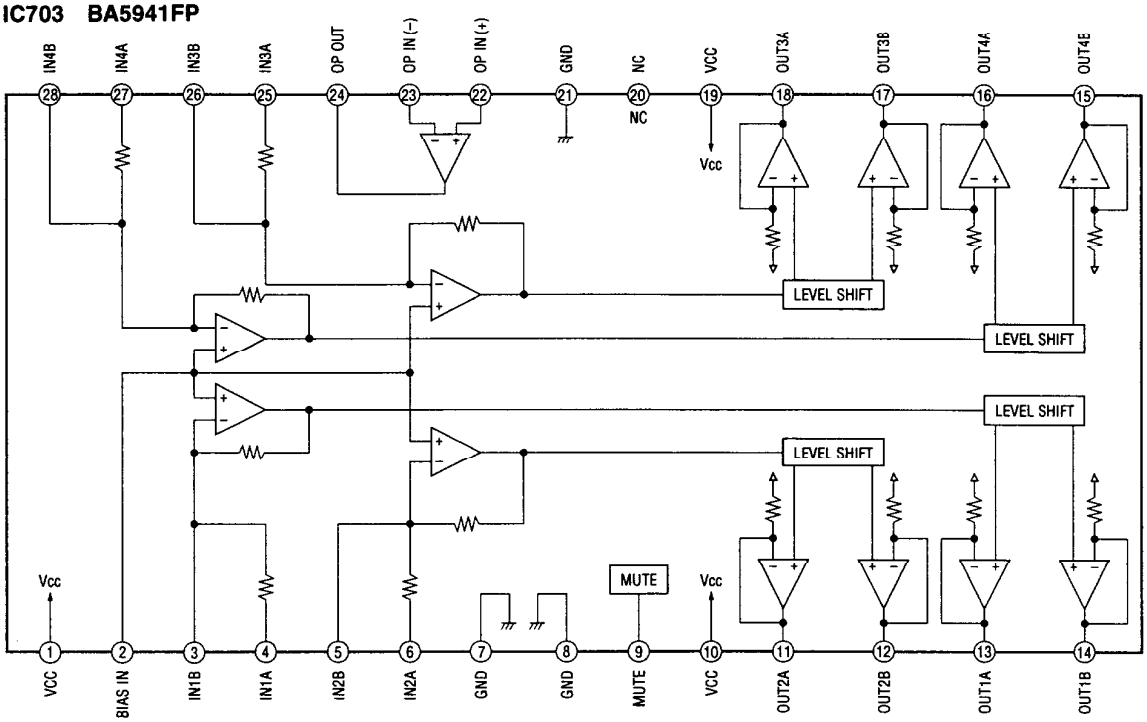
Note on Printed Wiring Board:

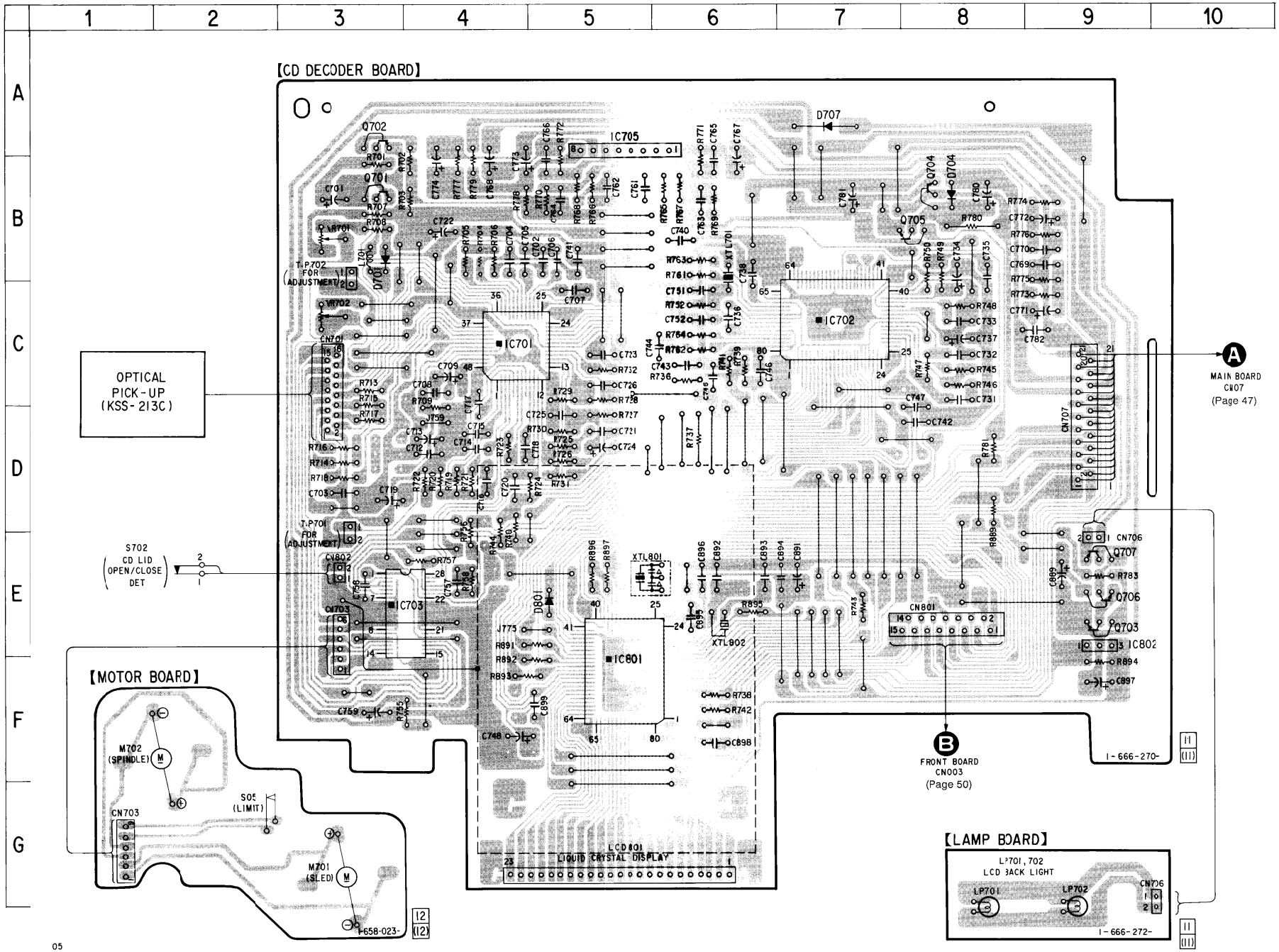
- ○——— : parts extracted from the compor
- ■ : parts mounted on the conductor
- △ : internal component.
- ▒▒▒ : Pattern from the side which ena

IC702 CXD2508Q



IC703 BA5941FP




【CD DECODER BOARD】
OPTICAL PICK-UP (KSS-213C)
S702 CD LID OPEN/CLOSE DET
【MOTOR BOARD】
M702 (SPINDLE)
SO5 (LIMIT)
M701 (SLED)
CN703
1-658-023-
MAIN BOARD CN07 (Page 47)
FRONT BOARD CN003 (Page 50)
1-666-270-
【LAMP BOARD】
L701, 702 LCD BACK LIGHT
LP701
LP702
CN706
1-666-272-
LIQUID CRYSTAL DISPLAY
IC701
IC702
IC703
IC705
IC801
IC802
CN701
CN702
CN703
CN706
CN707
CN801
XTL801
XTL802
D701
D707
Q701
Q702
Q703
Q704
Q705
Q706
Q707

05

Note on Schematic Diagram:

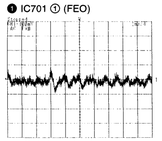
- All capacitors are in µF unless otherwise noted. pF: µµF
  50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and ¼ W or less unless otherwise specified.
- △ : internal component.

Note:
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

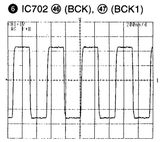
- B+ : B+ Line.
- ▭ : adjustment for repair.
- Voltages and waveforms are dc with respect to ground under no-signal (detuned) conditions.
  no mark : CD play
  ( ) : CD stop
  * : Impossible to measure
- Voltages are taken with a VOM (Input impedance 10 MΩ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
  ⇨ : CD

• Waveforms

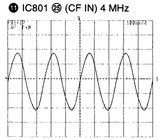
❶ IC701 ① (FEO)



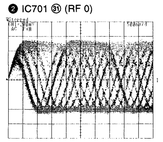
❺ IC702 ㊹ (BCK), ㊸ (BCK1)



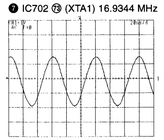
❾ IC801 ㉘ (CF IN) 4 MHz



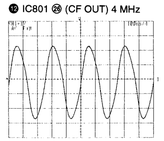
❷ IC701 ⑤ (RF 0)



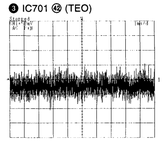
❼ IC702 ㊷ (XTA1) 16.9344 MHz



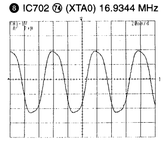
❿ IC801 ㉙ (CF OUT) 4 MHz



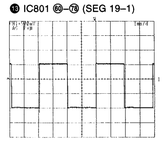
❸ IC701 ㊽ (TEO)



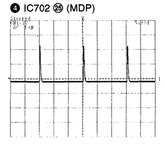
❻ IC702 ㊺ (XTA0) 16.9344 MHz



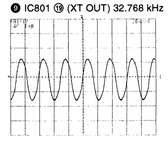
⓫ IC801 ㉖–㉝ (SEG 19–1)



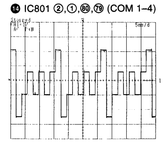
❹ IC702 ㉙ (MDP)



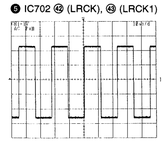
❽ IC801 ⑲ (XT OUT) 32.768 kHz



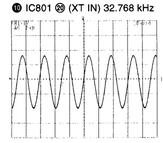
⓬ IC801 ②, ①, ㉜, ㉞ (COM 1–4)



❺ IC702 ㊸ (LRCK), ㊹ (LRCK1)

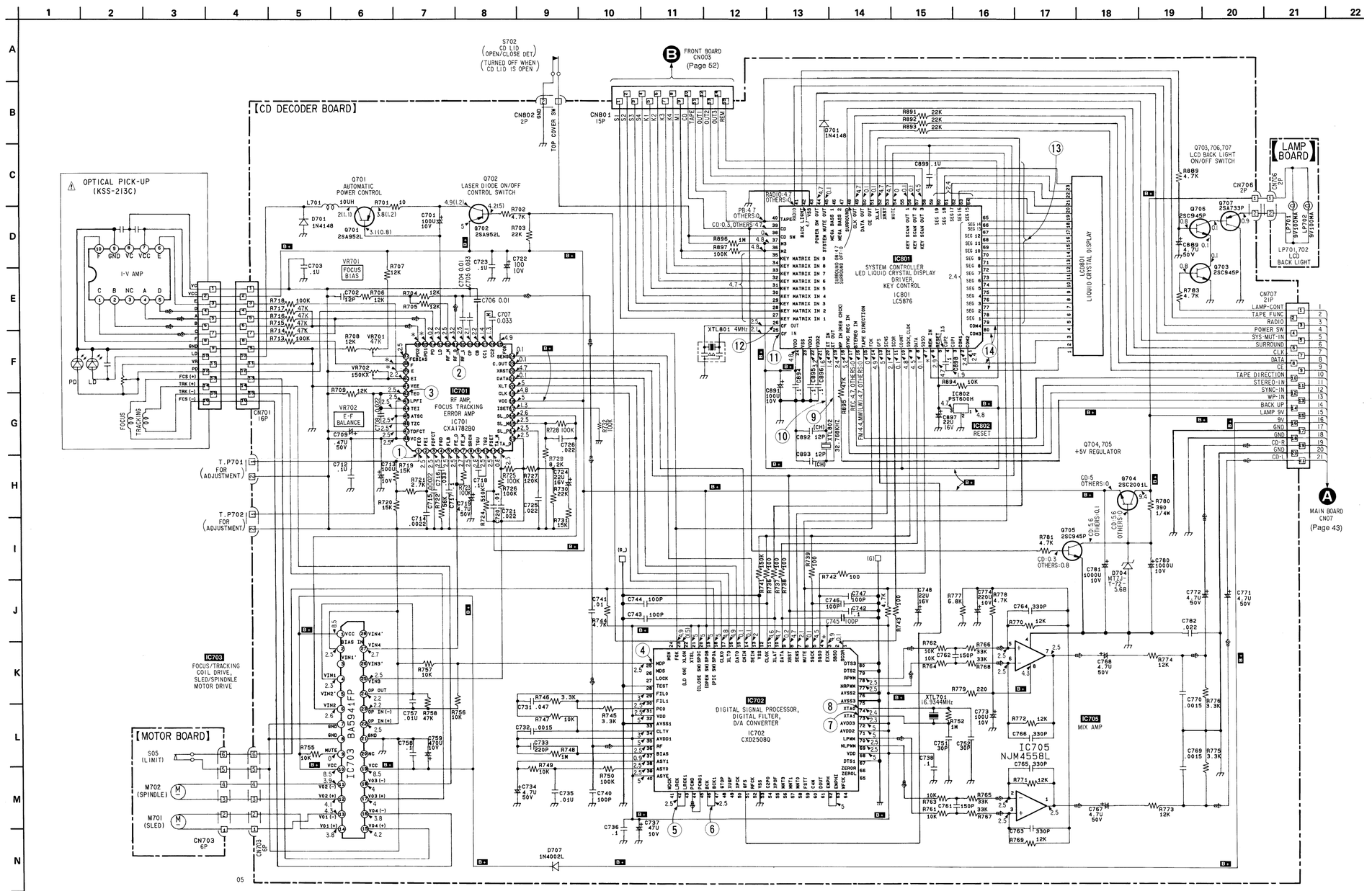


❿ IC801 ㉜ (XT IN) 32.768 kHz



Note: Waveforms are CD PLAY mode.

6-3. SCHEMATIC DIAGRAM – CD SECTION – • See page 31 for IC Pin Function Description, see page 33 for IC Block Diagrams.



6-4. SCHEMATIC DIAGRAM – MAIN SECTION –

【MAIN BOARD】

IC1 FM/MW(LW) FRONT END, IF, DET, MPX

IC301 REC/PB AMP

IC303 LINE AMP

IC304 FUNCTION SWITCH, MEGABASS CONTROL SWITCH

IC305 POWER AMP

IC302 BACK UP +5V REGULATOR

IC201 DECK A/B SWITCHING

IC202 TAPE SPEED

Q303 SURROUND SWITCH

	SURROUND ON	SURROUND OFF
E	4.1	0
C	4.1	0.1
B	4.7	0

【SP TERMINAL BOARD】

【TRANSISTOR BOARD】

【POWER BOARD】

【LEAF SW BOARD】

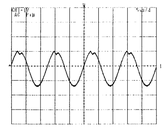
【BATTERY(A) BOARD】

【BATTERY(C) BOARD】

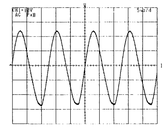
【BATTERY(B) BOARD】

• Waveforms

❶ Q306 Base (REC mode)



❷ L301 ①,② (REC mode)



Note on Schematic Diagram:

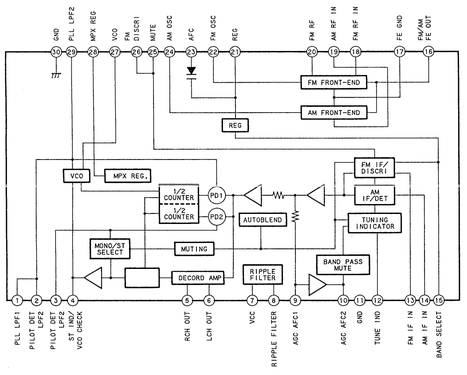
- All capacitors are in μF unless otherwise noted. pF: μμF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- △ : internal component.
- : fusible resistor.
- : panel designation.

Note:
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

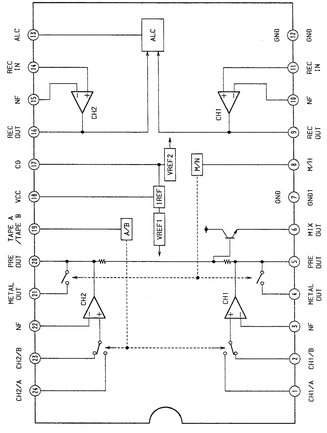
- B+ : B+ Line.
- : adjustment for repair.
- Voltages and waveforms are dc with respect to ground under no-signal (detuned) conditions.
  no mark : FM
  ( ) : MW (LW)
  < > : PB
  << >> : REC
  [ ] : CD
- Voltages are taken with a VOM (Input impedance 10 MΩ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
  : FM
  : MW (LW)
  : PB (DECK A)
  : PB (DECK B)
  : REC (DECK B)
  : CD

• IC Block Diagrams – MAIN Section –

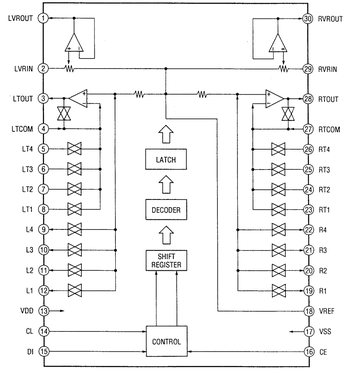
IC1 CXA1238S



IC301 TA8189N



IC304 LC75392



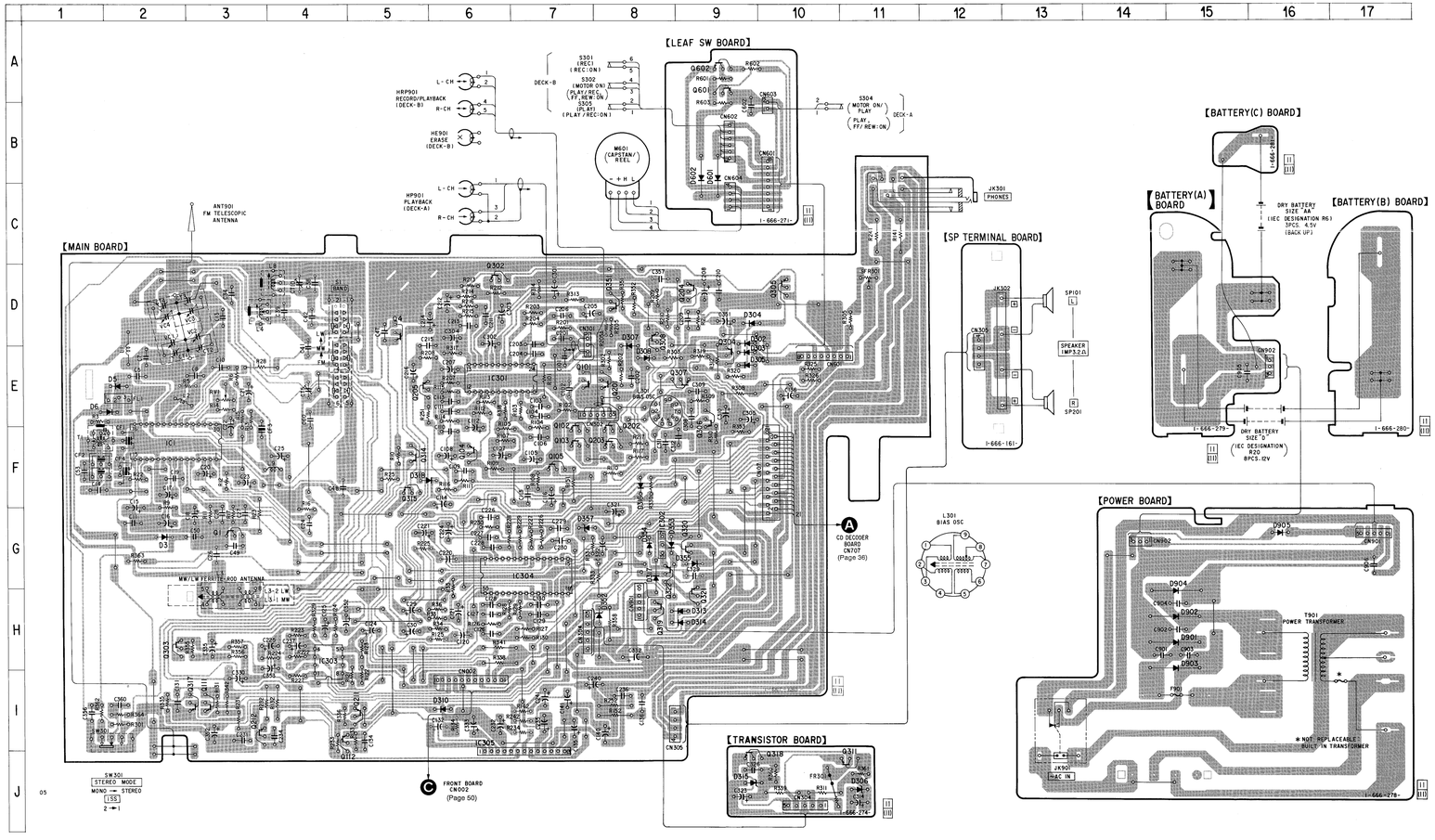
Note on Printed Wiring Board:

- ○—○ : parts extracted from the component side.
- ⊏⊐ : indicates side identified with part number.
- △ : internal component.
- ▨ : Pattern from the side which enables seeing.

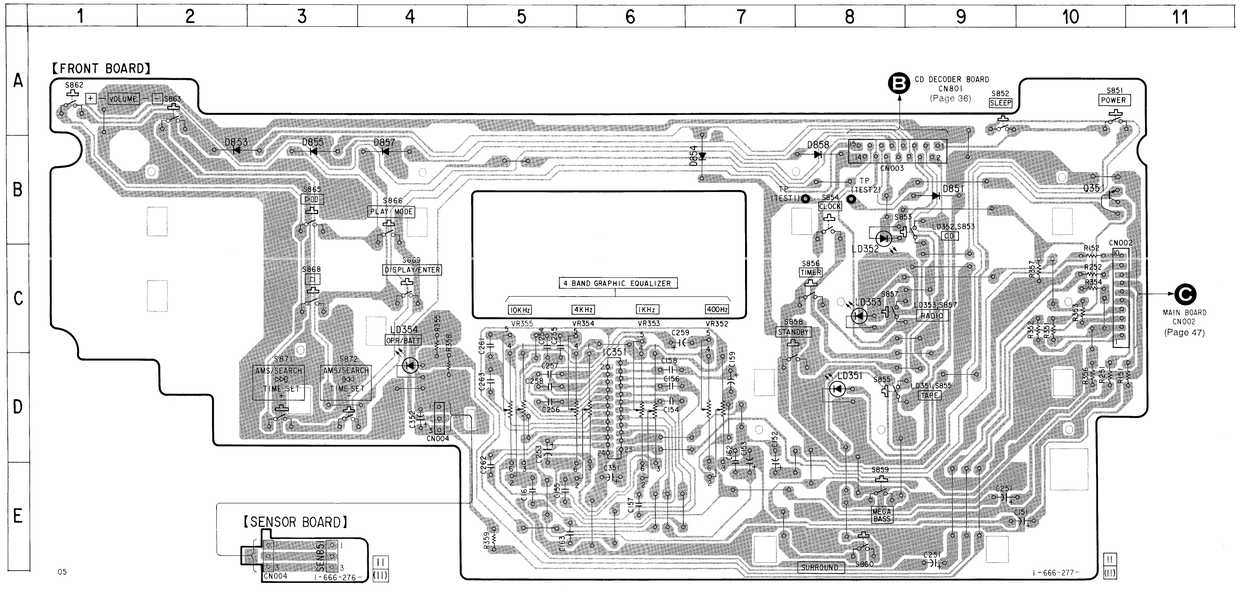
• Semiconductor Location

Ref. No.	Location	Ref. No.	Location
D3	G-2	Q1	G-3
D5	E-2	Q4	D-5
D6	E-2	Q101	E-7
D302	D-9	Q102	F-7
D303	E-9	Q103	F-7
D304	D-9	Q104	F-6
D305	E-9	Q105	F-7
D306	J-11	Q111	I-3
D307	E-8	Q112	I-4
D308	E-8	Q201	E-8
D310	I-6	Q202	F-8
D313	H-9	Q203	F-8
D314	H-9	Q204	D-9
D315	J-9	Q205	E-5
D316	F-8	Q211	I-5
D317	G-8	Q212	I-3
D318	F-5	Q302	D-6
D352	H-8	Q303	H-2
D353	G-8	Q304	E-9
D354	G-8	Q305	D-10
D355	G-9	Q306	E-9
D357	G-7	Q307	E-9
D601	B-9	Q308	D-8
D602	B-9	Q311	J-11
D901	H-15	Q314	F-5
D902	H-15	Q315	F-5
D903	H-15	Q317	I-3
D904	H-15	Q318	J-9
D905	G-16	Q319	H-8
		Q320	G-9
IC1	F-2	Q321	H-9
IC301	E-6	Q322	G-8
IC302	G-8	Q351	D-8
IC303	H-4	Q601	A-9
IC304	G-7	Q602	A-9
IC305	J-6		

6-5. PRINTED WIRING BOARDS – MAIN SECTION – • See page 30 for Circuit Boards Location.



6-6. PRINTED WIRING BOARDS – FRONT SECTION – • See page 30 for Circuit Boards Location.

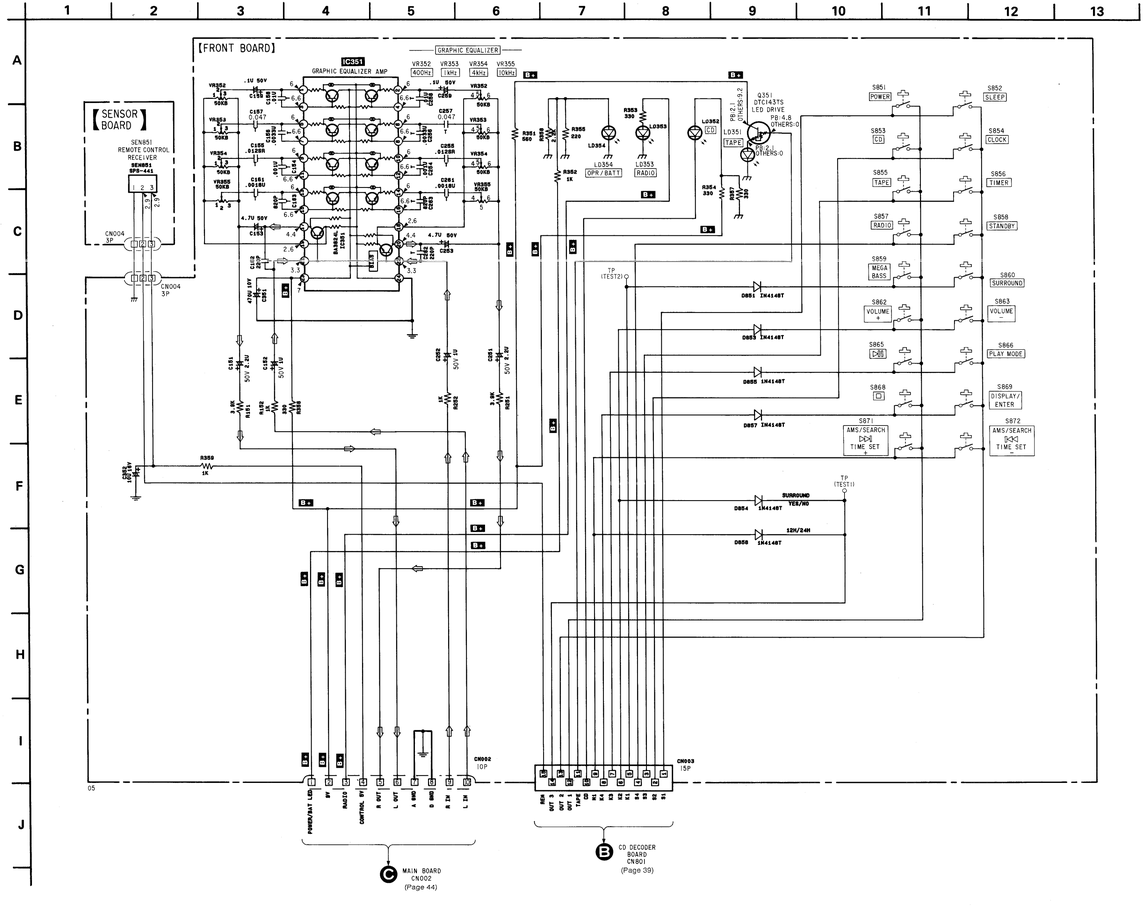


• Semiconductor Location

Ref. No.	Location
D851	B-9
D853	B-2
D854	B-7
D855	B-3
D857	B-4
D858	B-8
IC351	D-6
LD351	D-8
LD352	B-8
LD353	C-8
LD354	D-4
Q351	B-10
SEN851	E-3

Note on Printed Wiring Board:
- ——— : parts extracted from the component side.
- ▒▒▒ : Pattern from the side which enables seeing.

6-7. SCHEMATIC DIAGRAM – FRONT SECTION –



Note on Schematic Diagram:
- All capacitors are in µF unless otherwise noted. pF: µµF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and ¼ W or less unless otherwise specified.
- △ : internal component.
- ▭ : panel designation.
- B+ : B+ Line.
- Voltages and waveforms are dc with respect to ground under no-signal (detuned) conditions.
  no mark : FM
- Voltages are taken with a VOM (Input impedance 10 MΩ). Voltage variations may be noted due to normal production tolerances.
- Signal path.
  ⇨ : FM

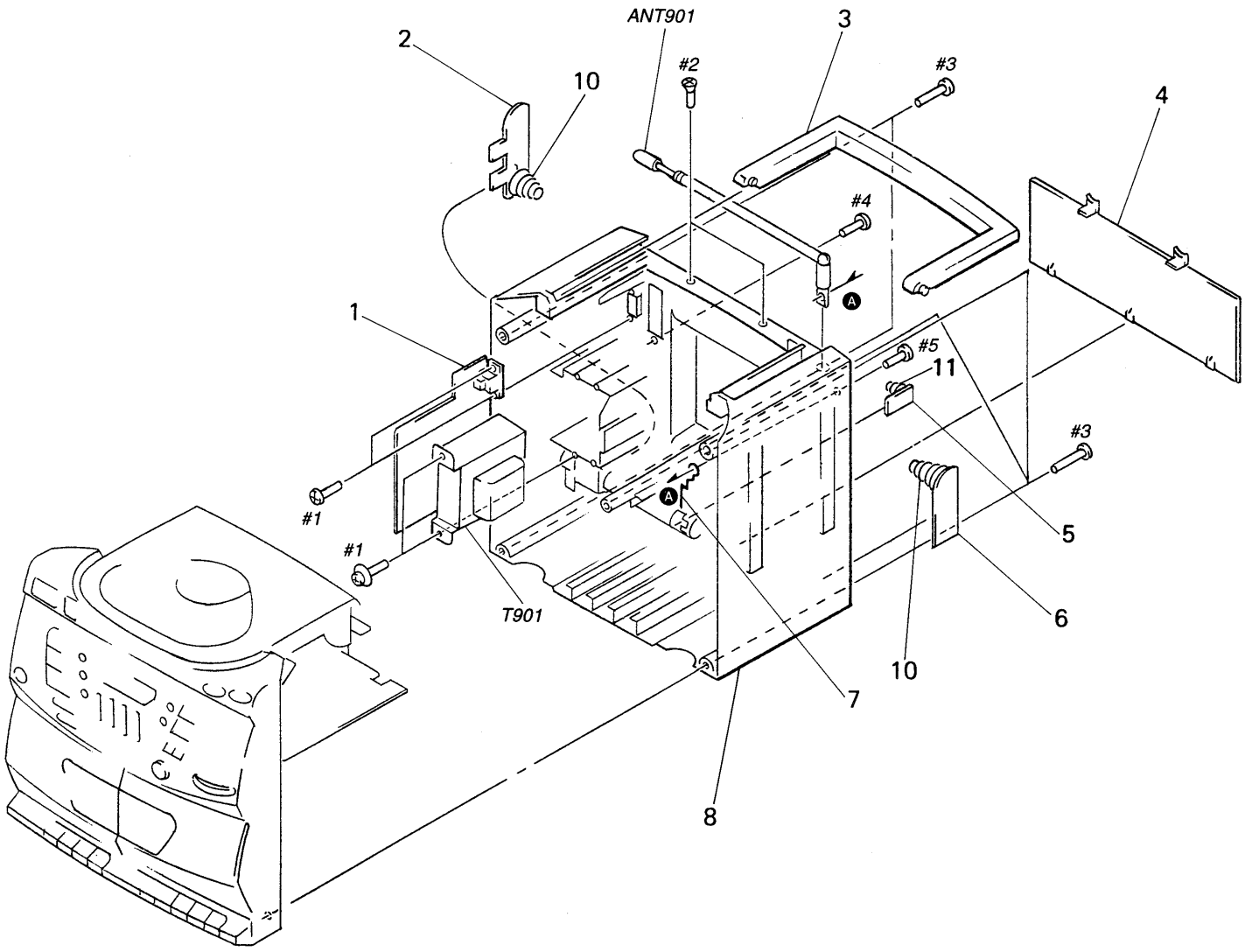
SECTION 7
EXPLODED VIEWS

NOTE:

- -XX and -X mean standardized parts, so they may have some difference from the original one.
- Color Indication of Appearance Parts
  Example:
  KNOB, BALANCE (WHITE) . . . (RED)
  ↑ ↑
  Parts Color Cabinet's Color
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware (# mark) list and accessories and packing materials are given in the last of the electrical parts list.

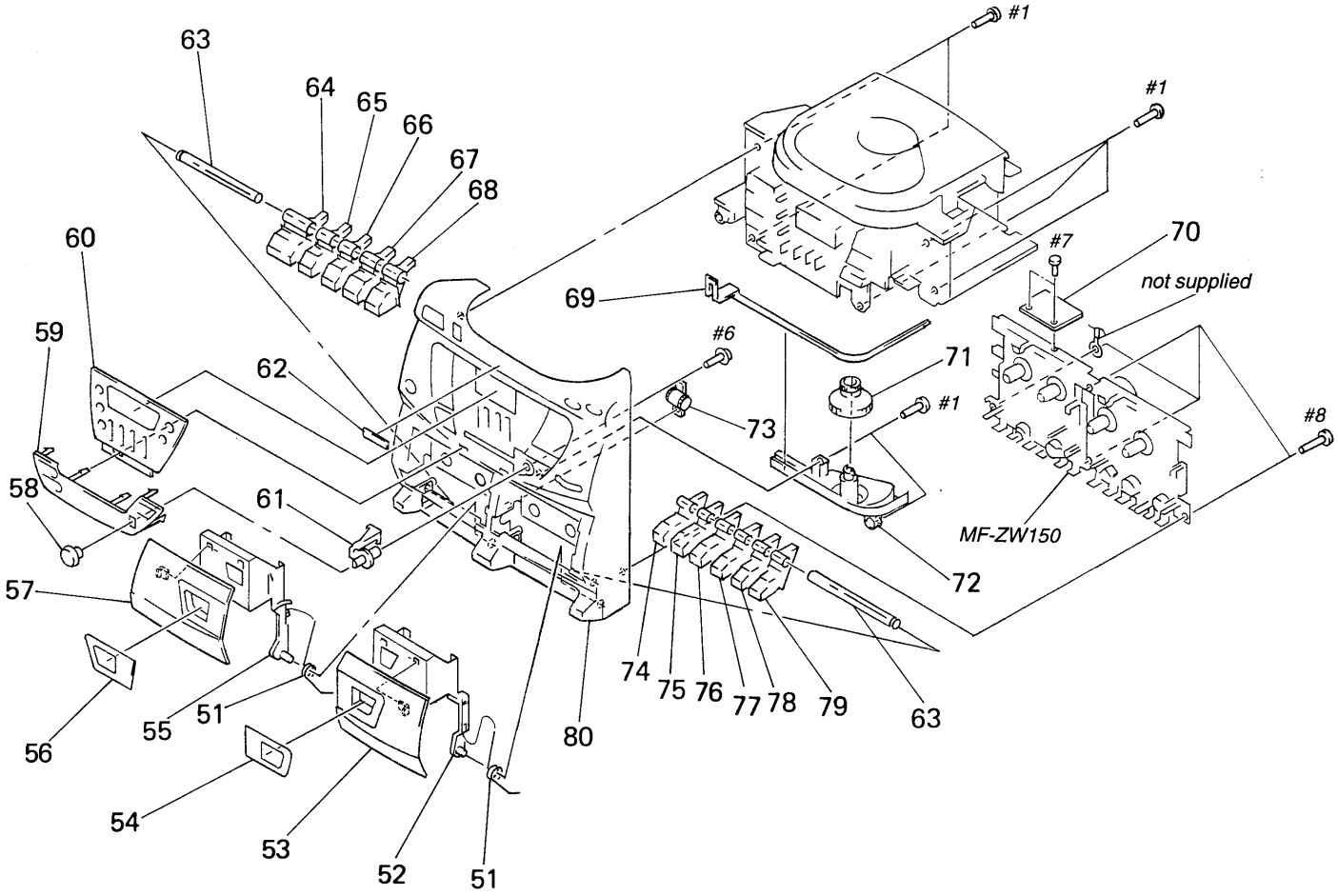
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

(1) BACK CABINET SECTION



Ref. No.	Part No.	Description	Remark
* 1	1-666-278-11	POWER BOARD	
* 2	1-666-279-11	BATTERY (A) BOARD	
3	3-013-673-01	HANDLE	
4	3-013-674-01	LID, BATTERY CASE	
* 5	1-666-281-11	BATTERY (C) BOARD	
* 6	1-666-280-11	BATTERY (B) BOARD	
7	3-014-421-01	SPRING, ANT CONTACT	
8	3-012-995-31	CABINET, BACK	
10	3-014-422-01	SPRING (3A), BATTERY	
11	3-014-423-01	SPRING (1A), BATTERY	
ANT901	1-501-927-11	ANTENNA, TELESCOPIC (FM/SW)	
⚠T901	1-431-441-11	TRANSFORMER, POWER	

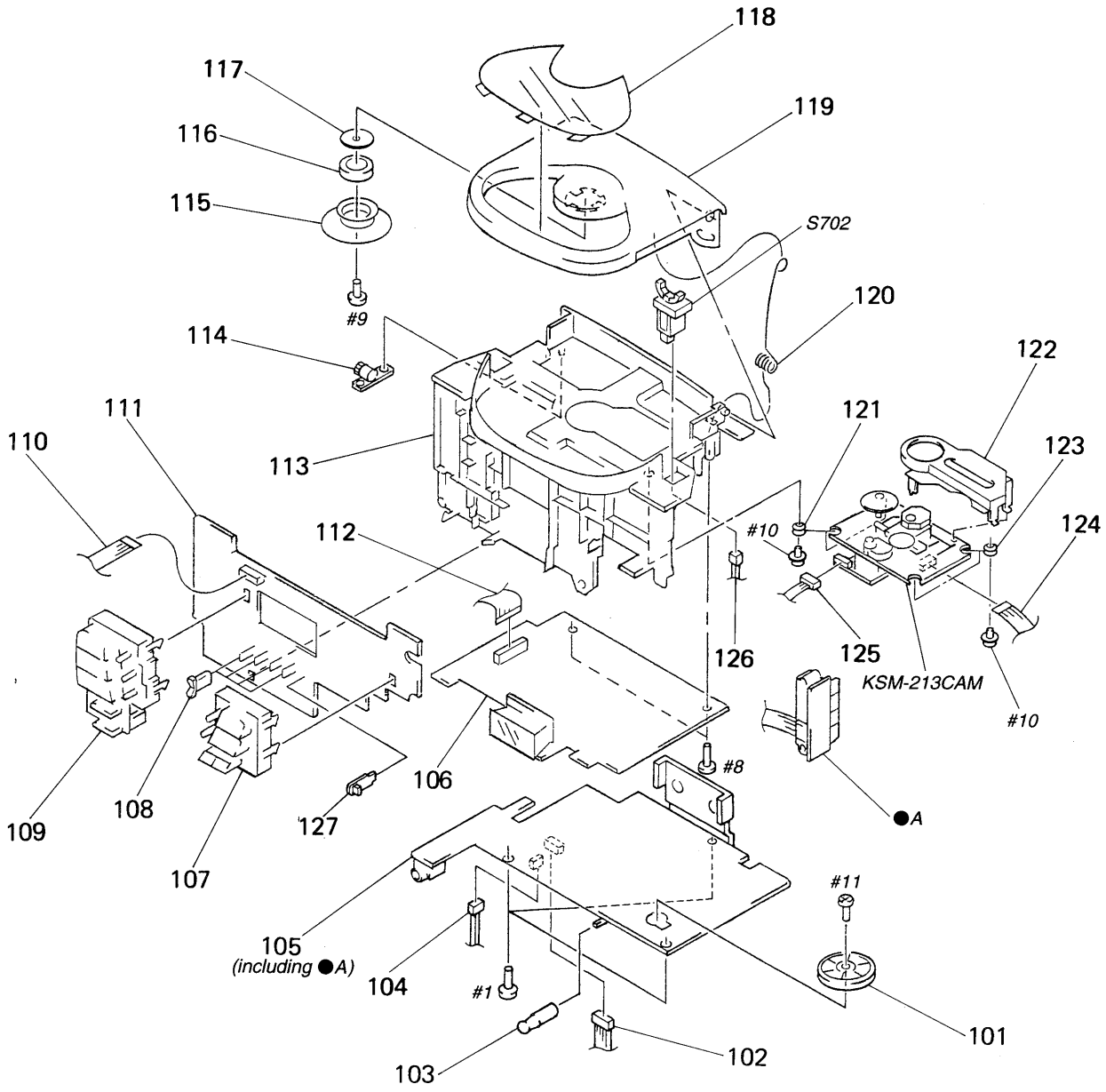
(2) FRONT PANEL SECTION



Ref. No.	Part No.	Description	Remark
51	3-014-406-01	SPRING, CASSETTE DOOR	
52	3-014-404-01	HOLDER (R), CASSETTE	
53	3-015-336-01	DOOR (R), CASSETTE	
54	3-013-772-01	WINDOW (R), CASSETTE DOOR	
55	3-013-001-01	HOLDER (L), CASSETTE	
56	3-013-773-01	WINDOW (L), CASSETTE DOOR	
57	3-013-671-01	DOOR (L), CASSETTE	
58	3-013-678-01	KNOB, BAND	
59	3-015-339-01	WINDOW, DIAL (EXCEPT Italian)	
59	3-016-431-01	WINDOW, DIAL (Italian)	
60	3-015-044-01	WINDOW, DISPLAY	
* 61	3-013-700-01	SHAFT, BAND KNOB	
62	3-013-683-01	EMBLEM	
* 63	3-014-405-01	SHAFT, KEY BUTTON	
64	3-013-694-01	BUTTON (L), CASSETTE (PLAY) (▶)	
65	3-013-693-01	BUTTON (L), CASSETTE (REW) (◀◀)	

Ref. No.	Part No.	Description	Remark
66	3-013-692-01	BUTTON (L), CASSETTE (FF) (▶▶)	
67	3-013-691-01	BUTTON (L), CASSETTE (ST/EJ) (■, ⏏)	
68	3-013-690-01	BUTTON (L), CASSETTE (PAUSE) (❚❚)	
69	3-013-670-01	POINTER, DIAL	
* 70	1-666-271-11	LEAF SW BOARD	
71	3-013-676-01	KNOB, TUNING	
72	3-013-702-01	HOLDER, TUNING KNOB	
73	3-014-407-01	DAMPER (TWIN), GEAR	
74	3-013-689-01	BUTTON, CASSETTE (REC) (●)	
75	3-013-688-01	BUTTON (R), CASSETTE (PLAY) (▶)	
76	3-013-687-01	BUTTON (R), CASSETTE (REW) (◀◀)	
77	3-013-686-01	BUTTON (R), CASSETTE (FF) (▶▶)	
78	3-013-685-01	BUTTON (R), CASSETTE (ST/EJ) (■, ⏏)	
79	3-013-684-01	BUTTON (R), CASSETTE (PAUSE) (❚❚)	
80	X-3373-888-1	PANEL ASSY, FRONT	

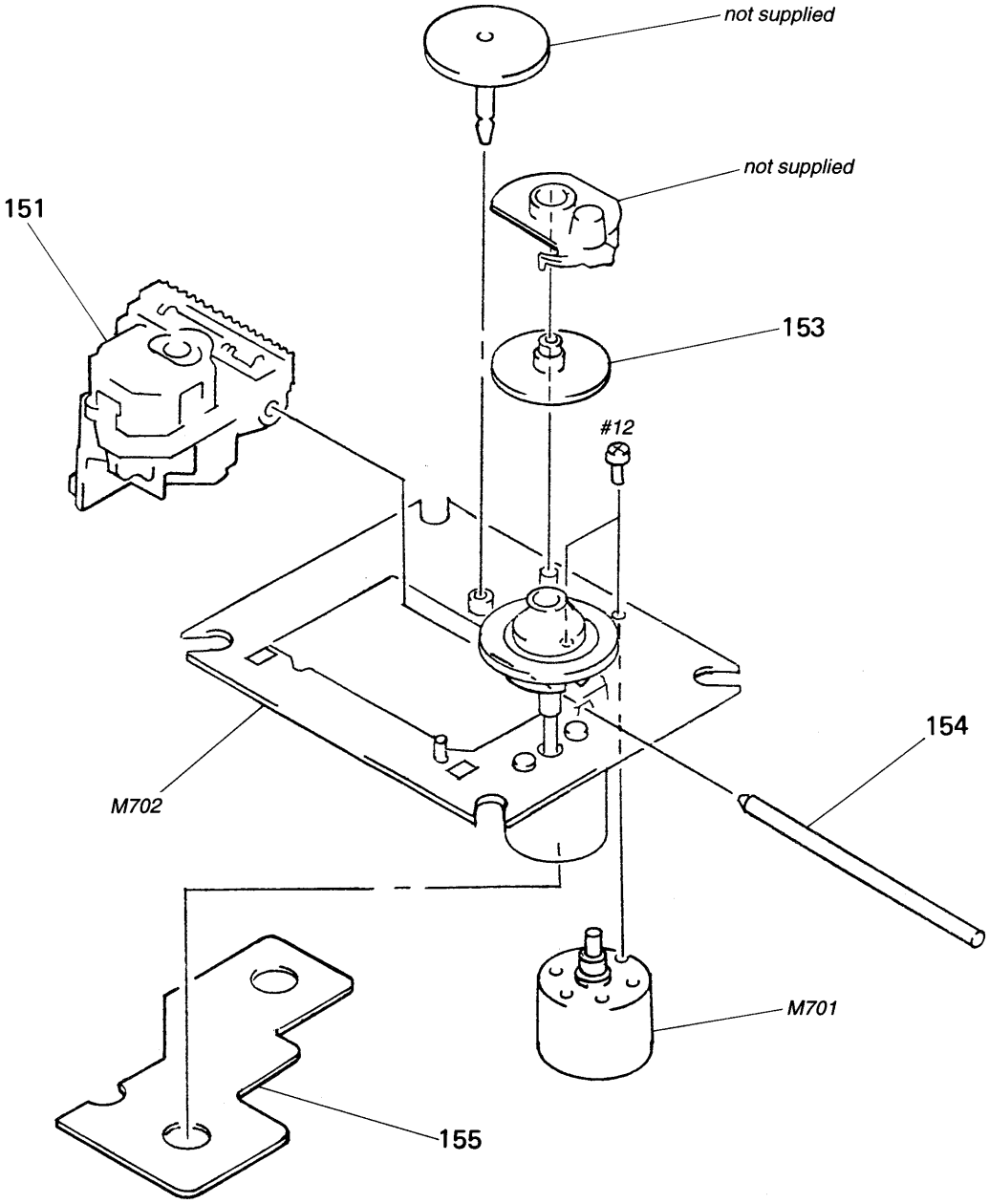
(3) CD BLOCK SECTION
(●A: SP TERMINAL board)



Ref. No.	Part No.	Description	Remark
* 101	3-014-413-01	DRUM, DIAL	
102	1-782-391-11	LEAD, CONNECTOR (300MM) 5P	
* 103	3-013-704-01	SPACER, LEVER (SW)	
104	1-782-390-11	LEAD, CONNECTOR (300MM) 3P	
* 105	A-3293-566-A	MAIN BOARD, COMPLETE (EXCEPT Italian)	
* 105	A-3293-636-A	MAIN BOARD, COMPLETE (Italian)	
* 106	A-3293-503-A	CD DECODER BOARD, COMPLETE	
107	3-013-680-01	BUTTON, CD (▷▯▯, □, ⏮, ⏭)	
108	3-013-675-01	KNOB, EQUALIZER	
109	X-3375-231-1	BUTTON ASSY, FUNCTION (CD, RADIO, TAPE)	
110	1-782-393-11	CABLE, FLEXIBLE FLAT (120MM) 15P	
* 111	A-3293-570-A	FRONT BOARD, COMPLETE	
112	1-782-394-11	CABLE, FLEXIBLE FLAT (160MM) 21P	
113	3-013-002-01	CHASSIS, CD	
114	3-014-412-01	DAMPER (GRAY), GEAR (EXCEPT Italian)	

Ref. No.	Part No.	Description	Remark
114	3-016-434-01	DAMPER (BLACK), GEAR (Italian)	
115	3-013-701-01	COVER, MAGNET	
116	1-452-732-11	MAGNET	
* 117	3-013-775-01	PLATE, MAGNET	
118	3-013-667-01	WINDOW, CD DOOR	
119	3-013-000-01	DOOR, CD	
120	3-014-409-01	SPRING, CD DOOR	
121	3-014-410-01	DAMPER (GREEN)	
122	3-013-698-01	COVER, CD PICK UP	
123	3-014-411-01	DAMPER (RED)	
124	1-782-392-11	CABLE, FLEXIBLE FLAT (80MM) 16P	
125	1-779-607-11	LEAD, (WITH CONNECTOR) (160MM) 6P	
126	1-779-608-11	LEAD, (WITH CONNECTOR) (100MM) 2P	
* 127	1-666-276-11	SENSOR BOARD	
S702	1-692-960-11	SWITCH, PUSH (1 KEY)	
		(CD LID OPEN/CLOSE DET)	

(4) OPTICAL PICK-UP SECTION (KSM-213CAM/C2NP)

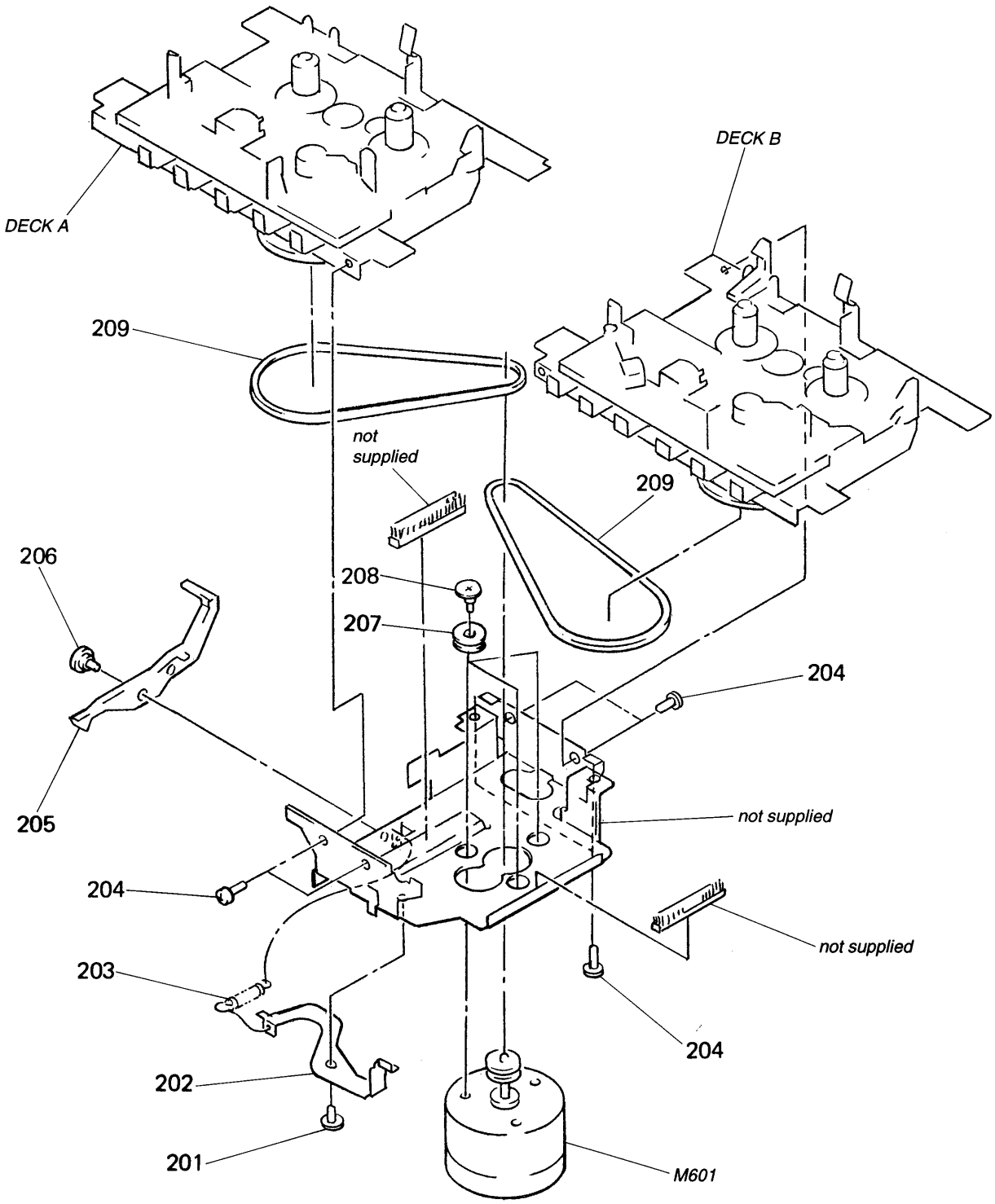


The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

Ref. No.	Part No.	Description	Remark
⚠151	8-848-379-31	OPTICAL PICK-UP KSS-213B/F-NP	
153	2-627-003-02	GEAR (B) (RP)	
154	2-626-908-01	SHAFT, SLED	

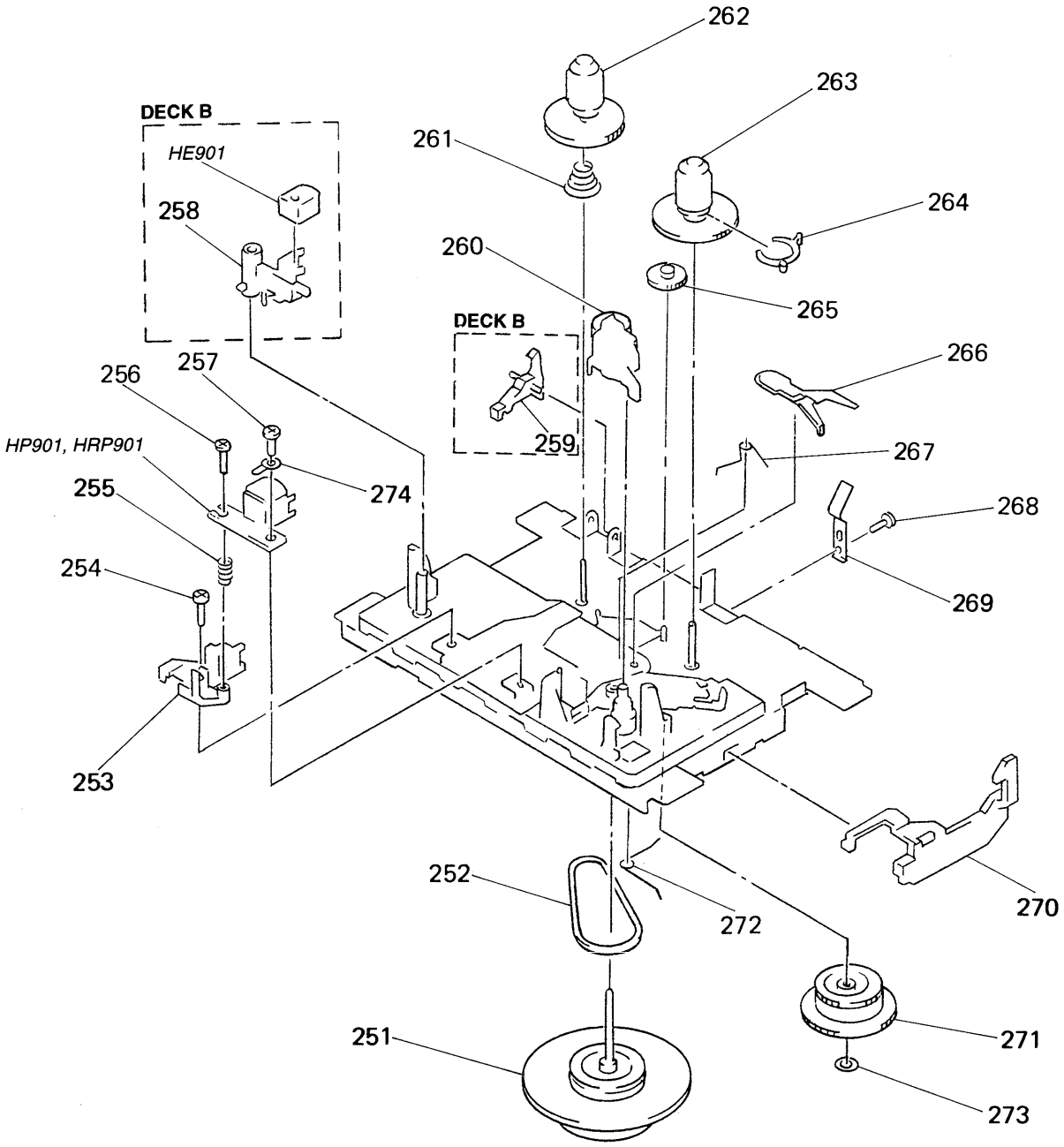
Ref. No.	Part No.	Description	Remark
* 155	1-658-023-12	MOTOR BOARD	
M701	X-2625-769-1	GEAR ASSY (MB), MOTOR (SLED)	
M702	X-2625-770-1	CHASSIS ASSY (MB) (RP), MOTOR (SPINDLE)	

(5) MECHANISM DECK SECTION-1 (MF-ZW150)



Ref. No.	Part No.	Description	Remark
201	3-014-792-01	SCREW (A), PK COLLAR	
202	3-014-791-01	LEVER (A), P KICK	
203	3-014-794-01	SPRING, P KICK LEVER	
204	3-014-780-01	SCREW (2X4), C	
205	3-014-790-01	LEVER (B), P KICK	
206	3-014-793-01	SCREW (B), PK COLLAR	
207	3-014-772-01	RUBBER, MOTOR	
208	3-014-773-01	SCREW, M COLLAR	
209	3-014-775-01	BELT, M	
M601	X-3374-558-1	MOTOR ASSY (CAPSTAN/REEL)	

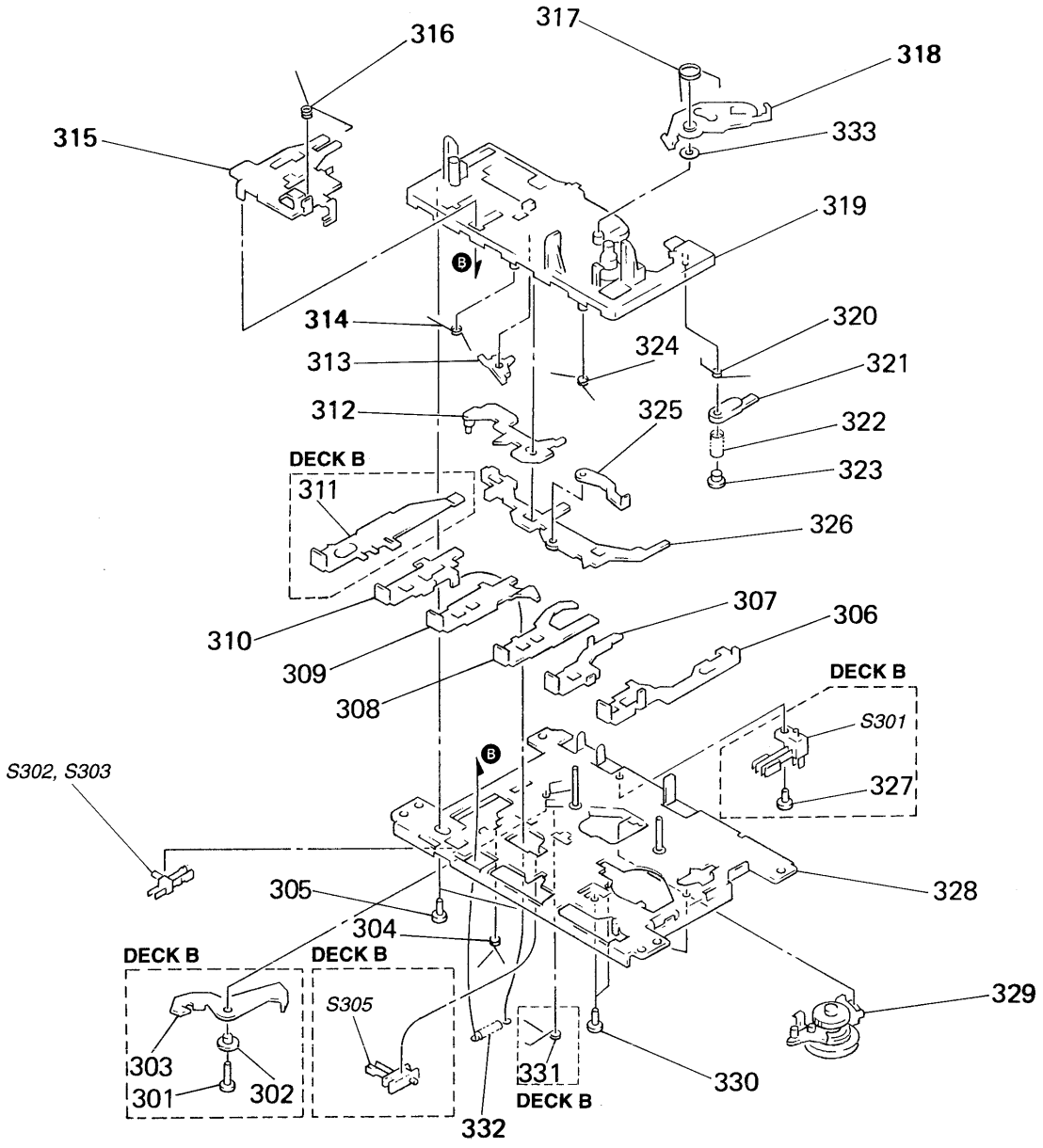
(6) MECHANISM DECK SECTION-2 (MF-ZW150)



Ref. No.	Part No.	Description	Remark
251	3-014-764-01	FLYWHEEL (DECK B)	
251	3-014-765-01	FLYWHEEL (DECK A)	
252	3-014-763-01	BELT (W), F	
253	3-014-755-01	BASE, HEAD	
254	3-014-783-01	SCREW (2X6)	
255	3-014-760-01	SPRING, AZIMUTH	
256	3-014-786-01	SCREW (2X7), A	
257	3-014-785-01	SCREW (2X3), B	
258	3-915-782-01	ARM, MG (DECK B)	
* 259	3-920-405-01	LEVER, REC SAFETY (DECK B)	
260	3-913-438-01	ARM ASSY, PINCH ROLLER	
261	3-014-768-01	SPRING, BACK TENSION	
262	3-014-769-01	HUB, S REEL	
263	3-014-770-01	REEL, T.U.	

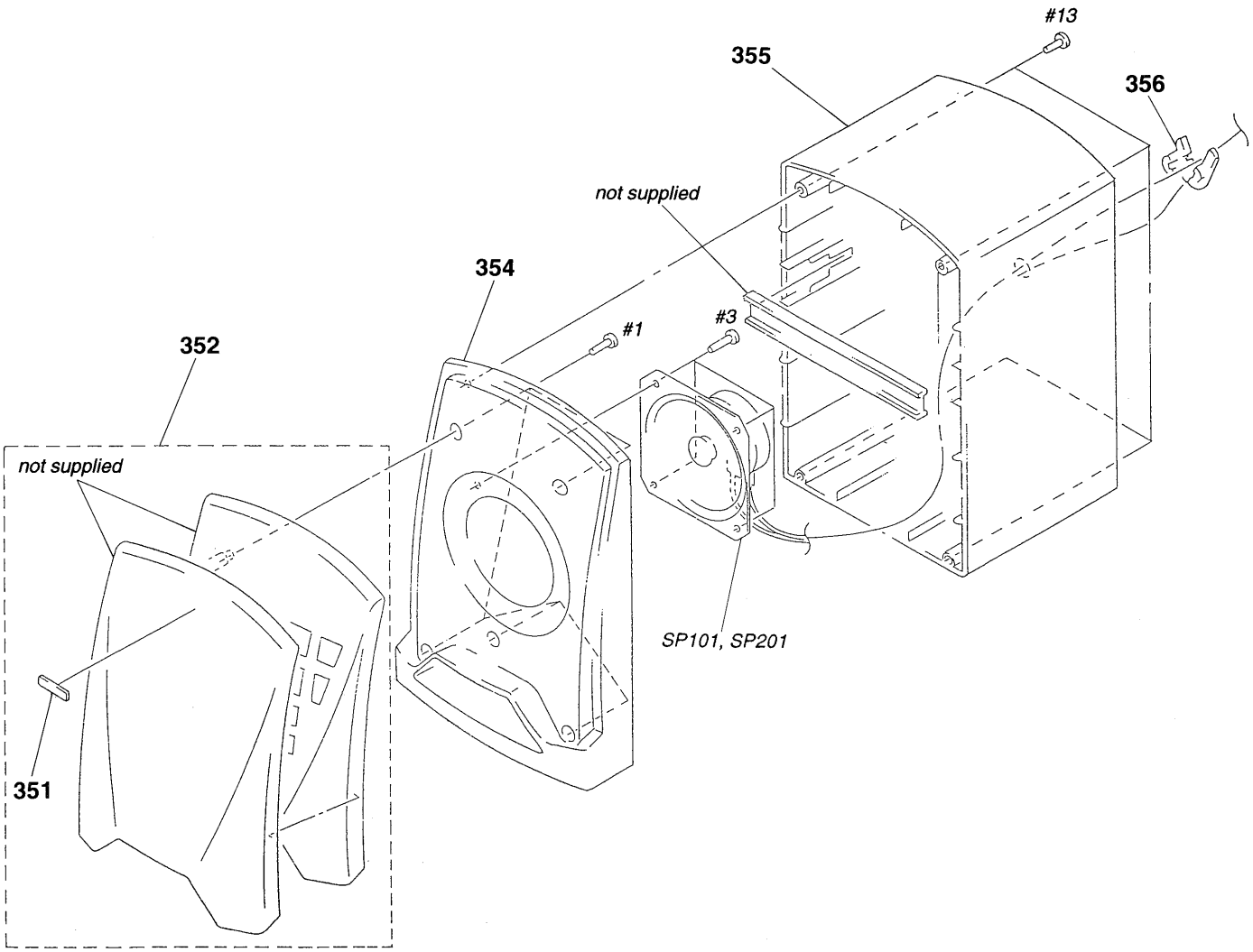
Ref. No.	Part No.	Description	Remark
264	3-915-797-01	SENSOR	
265	3-348-357-01	GEAR, FF	
266	3-915-785-01	LEVER, SENSING	
267	3-014-757-01	SPRING, M CONTROL	
268	3-014-779-01	SCREW (2X3), C	
* 269	3-014-778-01	PLATE, PACK SPRING	
270	3-014-777-01	LEVER, E SLIDE	
271	3-915-792-01	GEAR, CAM	
272	3-014-748-01	SPRING, E ACTUATOR	
273	3-014-787-01	WASHER (1.2X3.8X0.3), C	
* 274	3-014-789-01	LUG, B3	
HE901	1-500-139-11	HEAD, E (ERASE) (DECK B)	
HP901	1-500-463-11	HEAD, P (PLAYBACK) (DECK A)	
HPR901	1-500-464-11	HEAD, RP (REC/PB) (DECK B)	

(7) MECHANISM DECK SECTION-3 (MF-ZW150)



Ref. No.	Part No.	Description	Remark
301	3-014-780-01	SCREW (2X4), C (DECK B)	
302	3-014-759-01	COLLAR, P ARM (DECK B)	
303	3-014-758-01	ARM, REC (DECK B)	
304	3-014-749-01	SPRING, PS LEVER	
305	3-014-781-01	SCREW (2X5), PB	
* 306	3-014-743-01	LEVER, PAUSE BUTTON	
* 307	3-014-742-01	LEVER, STOP BUTTON	
* 308	3-014-741-01	LEVER, FF BUTTON	
* 309	3-014-740-01	LEVER, REW BUTTON	
* 310	3-014-739-01	LEVER, PLAY BUTTON	
* 311	3-014-738-01	LEVER, REC BUTTON (DECK B)	
* 312	3-014-736-01	ACTUATOR, SW	
313	3-014-761-01	STOPPER, PR	
314	3-014-747-01	SPRING (A), BUTTON LEVER	
* 315	3-014-753-01	PANEL, HEAD	
316	3-014-756-01	SPRING, PANEL (P)	
317	3-014-766-01	SPRING, GEAR PLATE	
318	3-014-767-01	PLATE, GEAR	
319	3-915-740-01	BASE ASSY (A)	
320	3-915-752-01	SPRING, P CONTROL	
321	3-014-744-01	LEVER (F), PAUSE	
322	3-014-745-01	SPRING, P LEVER	
323	3-014-746-01	STOPPER, PAUSE	
324	3-014-752-01	SPRING (B), BUTTON LEVER	
* 325	3-014-750-01	LEVER, E KICK	
* 326	3-014-737-01	ACTUATOR, PUSH BUTTON	
327	3-014-784-01	SCREW (2X5), C (DECK B)	
* 328	3-915-757-01	CHASSIS ASSY	
329	3-014-762-01	CLUTCH, RF	
330	3-014-782-01	SCREW (2X4.5), CT	
331	3-014-751-01	SPRING, REC BUTTON (DECK B)	
332	3-014-754-01	SPRING, PLAY BUTTON LEVER	
333	3-014-788-01	WASHER (1.45X3.8X0.5), C	
S301	1-771-134-11	SWITCH, REC (DECK B)	
S302	1-771-135-11	SWITCH, LEAF (MOTOR ON) (DECK B)	
S304	1-771-135-11	SWITCH, LEAF (MOTOR ON/PLAY) (DECK A)	
S305	1-762-023-11	SWITCH, LEAF (PLAY) (DECK B)	

(8) SPEAKER SECTION



Ref. No.	Part No.	Description	Remark
351	3-013-683-01	EMBLEM	
352	X-3374-322-1	PANEL AASSY, SPK CLOTH	
354	3-012-996-01	PANEL, SPEAKER (FRONT)	
* 355	3-012-998-01	CABINET (L), SPEAKER (BACK)	
* 355	3-012-999-01	CABINET (R), SPEAKER (BACK)	
356	3-013-666-01	RETAINER, SPK WIRE	
SP101	1-505-653-11	SPEAKER (4 INCH) (L-CH)	
SP201	1-505-653-11	SPEAKER (4 INCH) (R-CH)	

SECTION 8
ELECTRICAL PARTS LIST

BATTERY(A) **BATTERY(B)** **BATTERY(C)** **CD DECODER**

NOTE:
- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
  All resistors are in ohms.
  METAL:Metal-film resistor.
  METAL OXIDE: Metal oxide-film resistor.
  F:nonflammable
- Abbreviation
  AUS: Australian IT : Italian
  EE : East European
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, u:μ, for example:
  uA..: μA.. uPA..: μPA..
  uPB..: μPB.. uPC..: μPC.. uPD..: μPD..
- CAPACITORS
  uF: μF
- COILS
  uH: μH

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

When indicating parts by reference number, please include the board.

Ref.No.	Part No.	Description			Remark
*	1-666-279-11	BATTERY (A) BOARD			
		**********			
	3-014-422-01	SPRING (3A), BATTERY			
	7-612-017-65	WIRE, PARALLEL 3P			
		< CAPACITOR >			
C905	1-117-804-11	CERAMIC	0.1uF		50V
		< CONNECTOR >			
CN902	1-779-620-11	CONNECTOR (WIRE HOLDER) 3P			
**********					
*	1-666-280-11	BATTERY (B) BOARD			
		**********			
	3-014-422-01	SPRING (3A), BATTERY			
**********					
*	1-666-281-11	BATTERY (C) BOARD			
		**********			
	3-014-423-01	SPRING (1A), BATTERY			
**********					
*	A-3293-503-A	CD DECODER BOARD, COMPLETE			
		**********			
*	3-013-774-01	PLATE, DISPLAY			
*	3-013-776-01	HOLDER, DISPLAY			
	7-612-017-59	WIRE, PARALLEL 2P (160) BLK			
		< CAPACITOR >			
C701	1-126-933-11	ELECT	100uF	20%	10V
C702	1-162-201-31	CERAMIC	12PF	5%	50V
C703	1-117-804-11	CERAMIC	0.1uF		50V
C704	1-162-306-11	CERAMIC	0.01uF	20%	16V
C705	1-130-489-00	MYLAR	0.033uF	5%	50V
C706	1-162-306-11	CERAMIC	0.01uF	20%	16V
C707	1-130-489-00	MYLAR	0.033uF	5%	50V
C708	1-161-494-00	CERAMIC	0.022uF		25V
C709	1-126-959-11	ELECT	0.47uF	20%	50V
C712	1-117-804-11	CERAMIC	0.1uF		50V
C713	1-126-933-11	ELECT	100uF	20%	10V
C714	1-162-302-11	CERAMIC	0.0022uF	30%	16V
C715	1-162-302-11	CERAMIC	0.0022uF	30%	16V
C716	1-136-159-00	MYLAR	0.033uF	10%	50V
C717	1-117-804-11	CERAMIC	0.1uF		50V
C718	1-117-804-11	CERAMIC	0.1uF		50V
C719	1-126-963-11	ELECT	4.7uF	20%	50V
C720	1-162-306-11	CERAMIC	0.01uF	20%	16V
C721	1-161-494-00	CERAMIC	0.022uF		25V
C722	1-126-933-11	ELECT	100uF	20%	10V
C723	1-117-804-11	CERAMIC	0.1uF		50V
C724	1-126-233-11	ELECT	22uF	20%	50V
C725	1-161-494-00	CERAMIC	0.022uF		25V
C726	1-161-494-00	CERAMIC	0.022uF		25V
C731	1-110-671-31	CERAMIC	47000PF		50V
C732	1-162-301-11	CERAMIC	0.0015uF	30%	16V
C733	1-162-286-31	CERAMIC	220PF	10%	50V
C734	1-126-963-11	ELECT	4.7uF	20%	50V
C735	1-162-306-11	CERAMIC	0.01uF	20%	16V
C736	1-117-804-11	CERAMIC	0.1uF		50V
C737	1-126-967-11	ELECT	47uF	20%	10V
C738	1-117-804-11	CERAMIC	0.1uF		50V
C740	1-162-282-31	CERAMIC	100PF	10%	50V
C741	1-126-956-11	ELECT	0.1uF	20%	50V
C742	1-117-804-11	CERAMIC	0.1uF		50V
C743	1-162-282-31	CERAMIC	100PF	10%	50V
C744	1-162-282-31	CERAMIC	100PF	10%	50V
C745	1-162-282-31	CERAMIC	100PF	10%	50V
C746	1-162-282-31	CERAMIC	100PF	10%	50V
C747	1-162-282-31	CERAMIC	100PF	10%	50V
C748	1-126-233-11	ELECT	22uF	20%	50V
C751	1-162-210-31	CERAMIC	30PF	5%	50V
C752	1-162-210-31	CERAMIC	30PF	5%	50V
C757	1-162-306-11	CERAMIC	0.01uF	20%	16V
C758	1-117-804-11	CERAMIC	0.1uF		50V
C759	1-126-373-11	ELECT	470uF	20%	10V
C761	1-162-284-31	CERAMIC	150PF	10%	50V
C762	1-162-284-31	CERAMIC	150PF	10%	50V
C763	1-162-288-31	CERAMIC	330PF	10%	50V
C764	1-162-288-31	CERAMIC	330PF	10%	50V
C765	1-162-288-31	CERAMIC	330PF	10%	50V
C766	1-162-288-31	CERAMIC	330PF	10%	50V
C767	1-126-963-11	ELECT	4.7uF	20%	50V
C768	1-126-963-11	ELECT	4.7uF	20%	50V
C769	1-162-301-11	CERAMIC	0.0015uF	30%	16V

CD DECODER

Ref. No.	Part No.	Description			Remark
C770	1-162-301-11	CERAMIC	0.0015uF	30%	16V
C771	1-126-963-11	ELECT	4.7uF	20%	50V
C772	1-126-963-11	ELECT	4.7uF	20%	50V
C773	1-126-177-11	ELECT	100uF	20%	10V
C774	1-126-335-11	ELECT	220uF	20%	10V
C780	1-126-797-11	ELECT	1000uF	20%	10V
C781	1-126-797-11	ELECT	1000uF	20%	10V
C782	1-161-494-00	CERAMIC	0.022uF		25V
C889	1-126-963-11	ELECT	4.7uF	20%	50V
C891	1-126-933-11	ELECT	100uF	20%	10V
C892	1-164-048-11	CERAMIC	12PF	5%	50V
C893	1-164-048-11	CERAMIC	12PF	5%	50V
C894	1-117-804-11	CERAMIC	0.1uF		50V
C895	1-117-804-11	CERAMIC	0.1uF		50V
C896	1-117-804-11	CERAMIC	0.1uF		50V
C897	1-126-233-11	ELECT	22uF	20%	50V
C898	1-117-804-11	CERAMIC	0.1uF		50V
C899	1-117-804-11	CERAMIC	0.1uF		50V
		< CONNECTOR >			
CN701	1-782-397-11	SOCKET, CONNECTOR 16P			
CN703	1-779-609-11	CONNECTOR (BASE) 6P			
CN706	1-779-606-11	CONNECTOR (WIRE HOLDER) 2P			
CN707	1-782-396-11	SOCKET, CONNECTOR 21P			
CN801	1-782-395-11	SOCKET, CONNECTOR 15P			
CN802	1-779-621-11	CONNECTOR (BASE) 2P			
		< DIODE >			
D701	8-719-987-63	DIODE	1N4148M		
D704	8-719-109-89	DIODE	RD5.6ESB2		
D707	8-719-031-85	DIODE	1N4002L		
D801	8-719-987-63	DIODE	1N4148M		
		< IC >			
IC701	8-752-069-56	IC	CXA1782BQ		
IC702	8-752-372-91	IC	CXD2508Q		
IC703	8-759-429-31	IC	BA5941FP		
IC705	8-759-505-55	IC	NJM4558L		
IC801	8-759-524-89	IC	LC5876-1J64		
IC802	8-759-165-85	IC	PST600H-T		
		< INDUCTOR >			
L701	1-410-509-11	INDUCTOR	10uH		
		< LIQUID CRYSTAL DISPLAY >			
LCD801	1-810-442-31	DISPLAY PANEL, LIQUID CRYSTAL			
		< TRANSISTOR >			
Q701	8-729-195-23	TRANSISTOR	2SA952		
Q702	8-729-195-23	TRANSISTOR	2SA952		
Q703	8-729-119-78	TRANSISTOR	2SC403SP-51		
Q704	8-729-142-46	TRANSISTOR	2SC2001-LK		
Q705	8-729-119-78	TRANSISTOR	2SC403SP-51		
Q706	8-729-119-78	TRANSISTOR	2SC403SP-51		
Q707	8-729-119-76	TRANSISTOR	2SA1175-HFE		
		< RESISTOR >			
R701	1-249-393-11	CARBON	10	5%	1/4W
R702	1-247-847-11	CARBON	4.7K	5%	1/4W
R703	1-247-863-11	CARBON	22K	5%	1/4W
R704	1-249-430-11	CARBON	12K	5%	1/4W
R705	1-249-430-11	CARBON	12K	5%	1/4W
R706	1-249-430-11	CARBON	12K	5%	1/4W
R707	1-249-430-11	CARBON	12K	5%	1/4W
R708	1-249-430-11	CARBON	12K	5%	1/4W
R709	1-249-430-11	CARBON	12K	5%	1/4W
R713	1-247-879-11	CARBON	100K	5%	1/4W
R714	1-247-871-11	CARBON	47K	5%	1/4W
R715	1-247-871-11	CARBON	47K	5%	1/4W
R716	1-247-871-11	CARBON	47K	5%	1/4W
R717	1-247-871-11	CARBON	47K	5%	1/4W
R718	1-247-879-11	CARBON	100K	5%	1/4W
R719	1-249-431-11	CARBON	15K	5%	1/4W
R720	1-249-431-11	CARBON	15K	5%	1/4W
R721	1-247-841-11	CARBON	2.7K	5%	1/4W
R722	1-249-438-11	CARBON	56K	5%	1/4W
R723	1-247-879-11	CARBON	100K	5%	1/4W
R724	1-247-896-11	CARBON	510K	5%	1/4W
R725	1-247-879-11	CARBON	100K	5%	1/4W
R726	1-247-879-11	CARBON	100K	5%	1/4W
R727	1-247-881-00	CARBON	120K	5%	1/4W
R728	1-247-879-11	CARBON	100K	5%	1/4W
R729	1-249-428-11	CARBON	8.2K	5%	1/4W
R730	1-247-863-11	CARBON	22K	5%	1/4W
R731	1-249-431-11	CARBON	15K	5%	1/4W
R732	1-247-887-00	CARBON	220K	5%	1/4W
R736	1-247-807-11	CARBON	100	5%	1/4W
R737	1-260-087-11	CARBON	100	5%	1/2W
R738	1-247-807-11	CARBON	100	5%	1/4W
R739	1-247-807-11	CARBON	100	5%	1/4W
R740	1-247-847-11	CARBON	4.7K	5%	1/4W
R741	1-247-883-00	CARBON	150K	5%	1/4W
R742	1-247-807-11	CARBON	100	5%	1/4W
R743	1-247-807-11	CARBON	100	5%	1/4W
R744	1-247-847-11	CARBON	4.7K	5%	1/4W
R745	1-247-843-11	CARBON	3.3K	5%	1/4W
R746	1-247-843-11	CARBON	3.3K	5%	1/4W
R747	1-247-855-11	CARBON	10K	5%	1/4W
R748	1-247-903-00	CARBON	1M	5%	1/4W
R749	1-247-855-11	CARBON	10K	5%	1/4W
R750	1-247-879-11	CARBON	100K	5%	1/4W
R752	1-247-903-00	CARBON	1M	5%	1/4W
R755	1-247-855-11	CARBON	10K	5%	1/4W
R756	1-247-855-11	CARBON	10K	5%	1/4W

Ref. No.	Part No.	Description			Remark
R757	1-247-855-11	CARBON	10K	5%	1/4W
R758	1-247-871-11	CARBON	47K	5%	1/4W
R761	1-247-855-11	CARBON	10K	5%	1/4W
R762	1-247-855-11	CARBON	10K	5%	1/4W
R763	1-247-855-11	CARBON	10K	5%	1/4W
R764	1-247-855-11	CARBON	10K	5%	1/4W
R765	1-247-867-11	CARBON	33K	5%	1/4W
R766	1-247-867-11	CARBON	33K	5%	1/4W
R767	1-247-867-11	CARBON	33K	5%	1/4W
R768	1-247-867-11	CARBON	33K	5%	1/4W
R769	1-249-430-11	CARBON	12K	5%	1/4W
R770	1-249-430-11	CARBON	12K	5%	1/4W
R771	1-249-430-11	CARBON	12K	5%	1/4W
R772	1-249-430-11	CARBON	12K	5%	1/4W
R773	1-249-430-11	CARBON	12K	5%	1/4W
R774	1-249-430-11	CARBON	12K	5%	1/4W
R775	1-247-843-11	CARBON	3.3K	5%	1/4W
R776	1-247-843-11	CARBON	3.3K	5%	1/4W
R777	1-249-427-11	CARBON	6.8K	5%	1/4W
R778	1-247-847-11	CARBON	4.7K	5%	1/4W
R779	1-249-409-11	CARBON	220	5%	1/4W
R780	1-249-412-11	CARBON	390	5%	1/4W
R781	1-247-847-11	CARBON	4.7K	5%	1/4W
R783	1-247-847-11	CARBON	4.7K	5%	1/4W
R889	1-247-847-11	CARBON	4.7K	5%	1/4W
R891	1-247-863-11	CARBON	22K	5%	1/4W
R892	1-247-863-11	CARBON	22K	5%	1/4W
R893	1-247-863-11	CARBON	22K	5%	1/4W
R894	1-247-855-11	CARBON	10K	5%	1/4W
R895	1-247-871-11	CARBON	47K	5%	1/4W
R896	1-247-903-00	CARBON	1M	5%	1/4W
R897	1-247-879-11	CARBON	100K	5%	1/4W
		< VARIABLE RESISTOR >			
VR701	1-241-787-11	RES, ADJ, CARBON 47K			
VR702	1-238-513-11	RES, ADJ, CARBON 150K			
		< VIBRATOR >			
XTL701	1-760-793-11	VIBRATOR, CERAMIC (16.9344MHz)			
XTL801	1-767-130-11	VIBRATOR, CERAMIC (4MHz)			
XTL802	1-567-098-61	VIBRATOR, CRYSTAL (32.768KHz)			

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*	A-3293-570-A	FRONT BOARD, COMPLETE			
		**********			
	7-612-017-64	WIRE, PARALLEL 10P			
		< CAPACITOR >			
C151	1-126-961-11	ELECT	2.2uF	20%	50V
C152	1-126-960-11	ELECT	1uF	20%	50V
C153	1-126-963-11	ELECT	4.7uF	20%	50V
C154	1-162-294-31	CERAMIC	0.001uF	10%	50V
C155	1-161-052-00	CERAMIC	0.012uF	10%	25V
C156	1-162-303-11	CERAMIC	0.0033uF	20%	16V
C157	1-110-671-31	CERAMIC	0.047uF		50V
C158	1-162-306-11	CERAMIC	0.01uF	20%	16V
C159	1-126-956-11	ELECT	0.1uF	20%	50V
C161	1-130-474-11	FILM	0.0018uF	5%	50V
C162	1-162-286-31	CERAMIC	220PF	10%	50V
C163	1-162-293-31	CERAMIC	820PF	10%	50V
C251	1-126-961-11	ELECT	2.2uF	20%	50V
C252	1-126-960-11	ELECT	1uF	20%	50V
C253	1-126-963-11	ELECT	4.7uF	20%	50V
C254	1-162-294-31	CERAMIC	0.001uF	10%	50V
C255	1-161-052-00	CERAMIC	0.012uF	10%	25V
C256	1-162-303-11	CERAMIC	0.0033uF	20%	16V
C257	1-110-671-31	CERAMIC	0.047uF		50V
C258	1-162-306-11	CERAMIC	0.01uF	20%	16V
C259	1-126-956-11	ELECT	0.1uF	20%	50V
C261	1-130-474-11	FILM	0.0018uF	5%	50V
C262	1-162-286-31	CERAMIC	220PF	10%	50V
C263	1-162-293-31	CERAMIC	820PF	10%	50V
C351	1-126-925-11	ELECT	470uF	20%	10V
C352	1-126-964-51	ELECT	10uF	20%	50V
		< CONNECTOR >			
CN002	1-779-617-11	CONNECTOR (WIRE HOLDER) 10P			
CN003	1-782-400-11	SOCKET, CONNECTOR 15P			
		< DIODE >			
D851	8-719-911-19	DIODE 1SS119			
D853	8-719-911-19	DIODE 1SS119			
D854	8-719-911-19	DIODE 1SS119			
D855	8-719-911-19	DIODE 1SS119			
D857	8-719-911-19	DIODE 1SS119			
D858	8-719-911-19	DIODE 1SS119			
		< IC >			
IC351	8-759-970-44	IC BA3824LS			
		< DIODE >			
LD351	1-801-805-11	LED (3Q) (GREEN) (TAPE)			
LD352	1-801-805-11	LED (3Q) (GREEN) (CD)			
LD353	1-801-805-11	LED (3Q) (GREEN) (RADIO)			
LD354	1-801-804-11	LED (3Q) (RED) (OPR/BATT)			
		< TRANSISTOR >			
Q351	8-729-900-74	TRANSISTOR DTC143TS			
		< RESISTOR >			
R151	1-249-424-11	CARBON	3.9K	5%	1/4W
R152	1-249-417-11	CARBON	1K	5%	1/4W
R251	1-249-424-11	CARBON	3.9K	5%	1/4W
R252	1-249-417-11	CARBON	1K	5%	1/4W
R351	1-247-825-11	CARBON	560	5%	1/4W

FRONT **LAMP** **LEAF SW** **MAIN**

Ref. No.	Part No.	Description			Remark
R352	1-249-417-11	CARBON	1K	5%	1/4W
R353	1-249-411-11	CARBON	330	5%	1/4W
R354	1-249-411-11	CARBON	330	5%	1/4W
R355	1-249-409-11	CARBON	220	5%	1/4W
R356	1-249-411-11	CARBON	330	5%	1/4W
R357	1-249-411-11	CARBON	330	5%	1/4W
R358	1-247-839-11	CARBON	2.2K	5%	1/4W
R359	1-249-417-11	CARBON	1K	5%	1/4W
		< SWITCH >			
S851	1-762-798-11	SWITCH, KEYBOARD (POWER)			
S852	1-762-798-11	SWITCH, KEYBOARD (SLEEP)			
S853	1-762-798-11	SWITCH, KEYBOARD (CD)			
S854	1-762-798-11	SWITCH, KEYBOARD (CLOCK)			
S855	1-762-798-11	SWITCH, KEYBOARD (TAPE)			
S856	1-762-798-11	SWITCH, KEYBOARD (TIMER)			
S857	1-762-798-11	SWITCH, KEYBOARD (RADIO)			
S858	1-762-798-11	SWITCH, KEYBOARD (STANDBY)			
S859	1-762-798-11	SWITCH, KEYBOARD (MEGA BASS)			
S860	1-762-798-11	SWITCH, KEYBOARD (SURROUND)			
S862	1-762-798-11	SWITCH, KEYBOARD (VOLUME, +)			
S863	1-762-798-11	SWITCH, KEYBOARD (VOLUME, -)			
S865	1-762-798-11	SWITCH, KEYBOARD (▷▯▯)			
S866	1-762-798-11	SWITCH, KEYBOARD (PLAY MODE)			
S868	1-762-798-11	SWITCH, KEYBOARD (□)			
S869	1-762-798-11	SWITCH, KEYBOARD (DISPLAY/ENTER)			
S871	1-762-798-11	SWITCH, KEYBOARD (⏭, TIME SET +)			
S872	1-762-798-11	SWITCH, KEYBOARD (⏮, TIME SET -)			
		< VARIABLE RESISTOR >			
VR352	1-225-471-11	VOLUME, SLIDE 50K (EQUALIZER, 400Hz)			
VR353	1-225-471-11	VOLUME, SLIDE 50K (EQUALIZER, 1kHz)			
VR354	1-225-471-11	VOLUME, SLIDE 50K (EQUALIZER, 4kHz)			
VR355	1-225-471-11	VOLUME, SLIDE 50K (EQUALIZER, 10kHz)			
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*	1-666-272-11	LAMP BOARD			
		**********			
	3-014-417-01	COVER, LED			
	3-014-418-01	CAP (BLUE), LAMP			
		< CONNECTOR >			
CN706	1-779-606-11	CONNECTOR (WIRE HOLDER) 2P			
		< PILOT LAMP >			
LP701	1-517-685-11	LAMP, PILOT (LCD BACK LIGHT)			
LP702	1-517-685-11	LAMP, PILOT (LCD BACK LIGHT)			
**********					
*	1-666-271-11	LEAF SW BOARD			
		**********			
	7-612-017-55	WIRE, PARALLEL 2P (200)			
	7-612-017-56	WIRE, PARALLEL 6P (200)			
	7-612-017-57	WIRE, PARALLEL 4P (160)			
	7-612-017-58	WIRE, PARALLEL 8P (140) BLK			
		< CAPACITOR >			
C602	1-161-494-00	CERAMIC	0.022uF		25V
		< CONNECTOR >			
CN601	1-779-603-11	CONNECTOR (WIRE HOLDER) 8P			
CN602	1-779-605-11	CONNECTOR (WIRE HOLDER) 6P			
CN603	1-779-606-11	CONNECTOR (WIRE HOLDER) 2P			
CN604	1-779-604-11	CONNECTOR (WIRE HOLDER) 4P			
		< DIODE >			
D601	8-719-031-85	DIODE 1N4002L			
D602	8-719-031-85	DIODE 1N4002L			
		< TRANSISTOR >			
Q601	8-729-119-76	TRANSISTOR 2SA1175-HFE			
Q602	8-729-119-78	TRANSISTOR 2SC403SP-51			
		< RESISTOR >			
R601	1-249-417-11	CARBON	1K	5%	1/4W
R602	1-247-855-11	CARBON	10K	5%	1/4W
R603	1-249-417-11	CARBON	1K	5%	1/4W
**********					
*	A-3293-566-A	MAIN BOARD, COMPLETE (EXCEPT IT)			
*	A-3293-636-A	MAIN BOARD, COMPLETE (IT)			
		**********			
	1-782-399-11	LEAD, CONNECTOR (160MM) 5P			
	1-782-619-11	WIRE, PARALLEL 4P (160MM) BLK (IT)			
	7-612-017-62	WIRE, PARALLEL 4P (80MM) BLK (EXCEPT IT)			
	7-612-017-63	WIRE, PARALLEL 5P			
		< CAPACITOR >			
C5	1-162-306-11	CERAMIC	0.01uF	20%	16V
C7	1-162-203-31	CERAMIC	15PF	5%	50V
C8	1-162-208-31	CERAMIC	24PF	5%	50V
C10	1-162-193-31	CERAMIC	3.3PF	10%	50V
C11	1-162-306-11	CERAMIC	0.01uF	20%	16V
C13	1-162-191-31	CERAMIC	2.2PF	10%	50V
C14	1-162-282-31	CERAMIC	100PF	10%	50V
C15	1-126-963-11	ELECT	4.7uF	20%	50V
C16	1-126-960-11	ELECT	1uF	20%	50V
C17	1-126-967-11	ELECT	47uF	20%	16V
C18	1-126-967-11	ELECT	47uF	20%	16V
C19	1-162-306-11	CERAMIC	0.01uF	20%	16V
C20	1-126-960-11	ELECT	1uF	20%	50V
C21	1-126-961-11	ELECT	2.2uF	20%	50V
C22	1-126-933-11	ELECT	100uF	20%	16V
C23	1-126-959-11	ELECT	0.47uF	20%	50V
C24	1-126-963-11	ELECT	4.7uF	20%	50V
C25	1-126-956-11	ELECT	0.1uF	20%	50V

Ref. No.	Part No.	Description			Remark
C26	1-161-494-00	CERAMIC	0.022uF		25V
C27	1-161-053-00	CERAMIC	0.015uF	10%	50V
C28	1-161-053-00	CERAMIC	0.015uF	10%	50V
C29	1-126-959-11	ELECT	0.47uF	20%	50V
C30	1-126-959-11	ELECT	0.47uF	20%	50V
C38	1-162-285-31	CERAMIC	180PF	10%	50V
C39	1-162-201-31	CERAMIC	12PF	5%	50V
C41	1-117-862-11	FILM	330PF		100V
C42	1-117-861-11	FILM	270PF		100V
C47	1-162-282-31	CERAMIC	100PF	10%	50V
C48	1-162-282-31	CERAMIC	100PF	10%	50V
C49	1-161-494-00	CERAMIC	0.022uF		25V
C50	1-162-282-31	CERAMIC	100PF	10%	50V
C53	1-162-287-31	CERAMIC	270PF	10%	50V
C101	1-162-294-31	CERAMIC	0.001uF	10%	50V
C102	1-162-294-31	CERAMIC	0.001uF	10%	50V
C103	1-162-282-31	CERAMIC	100PF	10%	50V
C104	1-162-282-31	CERAMIC	100PF	10%	50V
C105	1-126-967-11	ELECT	47uF	20%	16V
C106	1-161-052-00	CERAMIC	0.012uF	10%	25V
C107	1-126-960-11	ELECT	1uF	20%	50V
C108	1-126-962-11	ELECT	3.3uF	20%	50V
C109	1-162-294-31	CERAMIC	0.001uF	10%	50V
C110	1-162-290-31	CERAMIC	470PF	10%	50V
C111	1-162-286-31	CERAMIC	220PF	10%	50V
C112	1-126-967-11	ELECT	47uF	20%	16V
C113	1-162-294-31	CERAMIC	0.001uF	10%	50V
C114	1-126-962-11	ELECT	3.3uF	20%	50V
C115	1-162-294-31	CERAMIC	0.001uF	10%	50V
C116	1-126-959-11	ELECT	0.47uF	20%	50V
C120	1-126-960-11	ELECT	1uF	20%	50V
C121	1-126-959-11	ELECT	0.47uF	20%	50V
C124	1-126-960-11	ELECT	1uF	20%	50V
C125	1-126-967-11	ELECT	47uF	20%	16V
C126	1-161-494-00	CERAMIC	0.022uF		25V
C127	1-161-494-00	CERAMIC	0.022uF		25V
C128	1-161-494-00	CERAMIC	0.022uF		25V
C129	1-161-020-11	CERAMIC	0.039uF	10%	25V
C130	1-117-804-11	CERAMIC	0.1uF		50V
C131	1-162-294-31	CERAMIC	0.001uF	10%	50V
C132	1-126-933-11	ELECT	100uF	20%	10V
C134	1-162-301-11	CERAMIC	0.0015uF	30%	16V
C135	1-126-933-11	ELECT	100uF	20%	10V
C136	1-126-956-11	ELECT	0.1uF	20%	50V
C140	1-126-926-11	ELECT	1000uF	20%	10V
C141	1-126-964-51	ELECT	10uF	20%	50V
C143	1-162-282-31	CERAMIC	100pF	10%	50V
C201	1-162-294-31	CERAMIC	0.001uF	10%	50V
C202	1-162-294-31	CERAMIC	0.001uF	10%	50V
C203	1-162-282-31	CERAMIC	100PF	10%	50V
C204	1-162-282-31	CERAMIC	100PF	10%	50V
C205	1-126-967-11	ELECT	47uF	20%	16V

Ref. No.	Part No.	Description			Remark
C206	1-161-052-00	CERAMIC	0.012uF	10%	25V
C207	1-126-960-11	ELECT	1uF	20%	50V
C208	1-126-962-11	ELECT	3.3uF	20%	50V
C209	1-162-294-31	CERAMIC	0.001uF	10%	50V
C210	1-162-290-31	CERAMIC	470PF	10%	50V
C211	1-162-286-31	CERAMIC	220PF	10%	50V
C212	1-126-967-11	ELECT	47uF	20%	16V
C213	1-162-294-31	CERAMIC	0.001uF	10%	50V
C214	1-126-962-11	ELECT	3.3uF	20%	50V
C215	1-162-294-31	CERAMIC	0.001uF	10%	50V
C216	1-126-959-11	ELECT	0.47uF	20%	50V
C220	1-126-960-11	ELECT	1uF	20%	50V
C221	1-126-959-11	ELECT	0.47uF	20%	50V
C224	1-126-960-11	ELECT	1uF	20%	50V
C225	1-126-967-11	ELECT	47uF	20%	16V
C226	1-161-494-00	CERAMIC	0.022uF		25V
C227	1-161-494-00	CERAMIC	0.022uF		25V
C228	1-161-494-00	CERAMIC	0.022uF		25V
C229	1-161-020-11	CERAMIC	0.039uF	10%	25V
C230	1-117-804-11	CERAMIC	0.1uF		50V
C231	1-162-294-31	CERAMIC	0.001uF	10%	50V
C232	1-126-933-11	ELECT	100uF	20%	10V
C234	1-162-301-11	CERAMIC	0.0015uF	30%	16
C235	1-126-933-11	ELECT	100uF	20%	10V
C236	1-126-956-11	ELECT	0.1uF	20%	50V
C240	1-126-926-11	ELECT	1000uF	20%	10V
C241	1-126-964-51	ELECT	10uF	20%	50V
C243	1-162-282-31	CERAMIC	100PF	10%	50V
C301	1-126-933-11	ELECT	100uF	20%	16V
C302	1-126-926-11	ELECT	1000uF	20%	10V
C303	1-126-962-11	ELECT	3.3uF	20%	50V
C304	1-126-967-11	ELECT	47uF	20%	16V
C305	1-126-964-51	ELECT	10uF	20%	50V
C308	1-130-485-00	MYLAR	0.015uF	5%	50V
C309	1-130-485-00	MYLAR	0.015uF	5%	50V
C310	1-126-967-11	ELECT	47uF	20%	16V
C311	1-137-350-11	MYLAR	0.015uF	5%	100V
C312	1-130-589-11	MYLAR	0.0022uF	5%	100V
C316	1-126-934-11	ELECT	220uF	20%	16V
C321	1-126-967-11	ELECT	47uF	20%	16V
C322	1-126-933-11	ELECT	100uF	20%	16V
C325	1-126-960-11	ELECT	1uF	20%	50V
C327	1-126-925-11	ELECT	470uF	20%	10V
C329	1-117-804-11	CERAMIC	0.1uF		50V
C330	1-126-964-51	ELECT	10uF	20%	50V
C332	1-128-548-11	ELECT	4700uF	20%	25V
C333	1-104-666-11	ELECT	220uF	20%	25V
C335	1-126-044-11	ELECT	1uF	20%	50V
C351	1-126-043-11	ELECT	0.47uF	20%	50V
C352	1-126-967-11	ELECT	47uF	20%	16V
C353	1-126-963-11	ELECT	4.7uF	20%	50V
C356	1-161-494-00	CERAMIC	0.022uF		25V
C357	1-161-494-00	CERAMIC	0.022uF		25V

MAIN

Ref. No.	Part No.	Description	Remark
C360	1-162-294-31	CERAMIC 0.001uF 10% 50V	
		< FILTER >	
CF1	1-578-791-11	FILTER, CERAMIC	
CF2	1-251-600-11	DETECTOR, CERAMIC (SFZ450B)	
CF3	1-567-163-11	FILTER, CERAMIC	
CF4	1-578-791-11	FILTER, CERAMIC	
		< CONNECTOR/WIRE >	
CN02	7-612-017-61	WIRE, PARALLEL 10P (TOP BASE)	
CN07	1-782-398-11	SOCKET, CONNECTOR 21P	
CN301	1-779-616-11	CONNECTOR (TOP BASE) 3P	
CN302	1-779-615-11	CONNECTOR (TOP BASE) 5P	
CN304	1-779-613-11	CONNECTOR (WIRE HOLDER) 5P	
CN305	1-779-614-11	CONNECTOR (WIRE HOLDER) 4P	
CN601	7-612-017-60	WIRE, PARALLEL 8P (TOP BASE)	
CN901	1-779-693-11	CONNECTOR (WIRE HOLDER) 5P	
		< VARIABLE CAPACITOR >	
CT1-4	1-141-579-11	CAP, ADJ VAR (TUNING)	
CT5	1-117-860-11	CAP, ADJ VAR 50PF	
CT10	1-117-860-11	CAP, ADJ VAR 50PF	
		< DIODE >	
D3	8-719-987-63	DIODE 1N4148M	
D5	8-719-987-63	DIODE 1N4148M	
D6	8-719-987-63	DIODE 1N4148M	
D302	8-719-987-63	DIODE 1N4148M	
D303	8-719-987-63	DIODE 1N4148M	
D304	8-719-987-63	DIODE 1N4148M	
D305	8-719-987-63	DIODE 1N4148M	
D307	8-719-987-63	DIODE 1N4148M	
D308	8-719-987-63	DIODE 1N4148M	
D310	8-719-987-63	DIODE 1N4148M	
D313	8-719-987-63	DIODE 1N4148M	
D314	8-719-987-63	DIODE 1N4148M	
D316	8-719-987-63	DIODE 1N4148M	
D317	8-719-911-19	DIODE 1SS119	
D318	8-719-987-63	DIODE 1N4148M	
D353	8-719-987-63	DIODE 1N4148M	
D354	8-719-987-63	DIODE 1N4148M	
D355	8-719-987-63	DIODE 1N4148M	
D357	8-719-983-66	DIODE MTZJ-T-72-3.6B	
D358	8-719-987-63	DIODE 1N4148M	
		< BAND PASS FILTER >	
FL1	1-233-918-11	FILTER, BAND PASS	
		< IC >	
IC1	8-752-050-20	IC CXA1238S	
IC301	8-759-242-58	IC TA8189N	
IC302	8-759-515-65	IC S81252HG	
IC303	8-759-634-51	IC M5218AP	
IC304	8-759-473-59	IC LC75392	
IC305	8-759-820-22	IC LA4597	
		< JACK >	
JK301	1-779-611-11	JACK, HEADPHONE (PHONES)	
		< ANTENNA/COIL >	
L1	1-416-273-11	COIL, FM RF	
L2	1-416-274-11	COIL, SPRING (EXCEPT IT)	
L2	1-416-365-11	COIL, FM OSCILLATION (IT)	
L3	1-501-937-11	ANTENNA, MW/LW FERRITE-ROD	
L4	1-416-312-11	COIL, MW OSCILLATION	
L8	1-416-313-11	COIL, LW OSCILLATION	
L9	1-414-848-11	INDUCTOR 33uH	
L301	1-433-346-11	TRANSFORMER, BIAS OSCILLATOR	
		< TRANSISTOR >	
Q1	8-729-904-36	TRANSISTOR DTC114YS	
Q4	8-729-900-65	TRANSISTOR DTA144ES	
Q101	8-729-281-53	TRANSISTOR 2SC1815-GR	
Q102	8-729-142-46	TRANSISTOR 2SC2001-LK	
Q103	8-729-142-46	TRANSISTOR 2SC2001-LK	
Q104	8-729-119-78	TRANSISTOR 2SC403SP-51	
Q105	8-729-141-30	TRANSISTOR 2SC3623A-LK	
Q111	8-729-178-55	TRANSISTOR 2SC2785-E	
Q112	8-729-119-78	TRANSISTOR 2SC403SP-51	
Q201	8-729-281-53	TRANSISTOR 2SC1815-GR	
Q202	8-729-142-46	TRANSISTOR 2SC2001-LK	
Q203	8-729-142-46	TRANSISTOR 2SC2001-LK	
Q204	8-729-119-78	TRANSISTOR 2SC403SP-51	
Q205	8-729-141-30	TRANSISTOR 2SC3623A-LK	
Q211	8-729-178-55	TRANSISTOR 2SC2785-E	
Q212	8-729-119-78	TRANSISTOR 2SC403SP-51	
Q302	8-729-900-89	TRANSISTOR DTC144ES	
Q303	8-729-900-74	TRANSISTOR DTC143TS	
Q304	8-729-900-65	TRANSISTOR DTA144ES	
Q305	8-729-921-65	TRANSISTOR DTC143ES	
Q306	8-729-142-46	TRANSISTOR 2SC2001-LK	
Q307	8-729-119-78	TRANSISTOR 2SC403SP-51	
Q308	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q314	8-729-422-57	TRANSISTOR UN4111	
Q315	8-729-900-80	TRANSISTOR DTC114ES	
Q317	8-729-119-78	TRANSISTOR 2SC403SP-51	
Q319	8-729-422-57	TRANSISTOR UN4111	
Q320	8-729-900-80	TRANSISTOR DTC114ES	
Q321	8-729-900-80	TRANSISTOR DTC114ES	
Q322	8-729-422-57	TRANSISTOR UN4111	
Q351	8-729-119-78	TRANSISTOR 2SC403SP-51	
		< RESISTOR >	
R3	1-247-839-11	CARBON 2.2K 5% 1/4W	

Ref. No.	Part No.	Description				Remark
R5	1-247-843-11	CARBON	3.3K	5%	1/4W	
R6	1-247-879-11	CARBON	100K	5%	1/4W	
R9	1-247-879-11	CARBON	100K	5%	1/4W	
R10	1-249-404-00	CARBON	82	5%	1/4W	
R11	1-249-427-11	CARBON	6.8K	5%	1/4W	
R12	1-247-839-11	CARBON	2.2K	5%	1/4W	
R13	1-247-807-11	CARBON	100	5%	1/4W	
R14	1-247-855-11	CARBON	10K	5%	1/4W	
R15	1-247-887-00	CARBON	220K	5%	1/4W	
R16	1-247-887-00	CARBON	220K	5%	1/4W	
R17	1-249-427-11	CARBON	6.8K	5%	1/4W	
R22	1-249-411-11	CARBON	330	5%	1/4W	
R23	1-260-117-11	CARBON	33K	5%	1/2W	
R25	1-247-835-11	CARBON	1.5K	5%	1/4W	
R28	1-249-399-11	CARBON	33	5%	1/4W	
R33	1-249-420-11	CARBON	1.8K	5%	1/4W	
R34	1-249-420-11	CARBON	1.8K	5%	1/4W	
R35	1-247-855-11	CARBON	10K	5%	1/4W	
R36	1-247-855-11	CARBON	10K	5%	1/4W	
R101	1-249-417-11	CARBON	1K	5%	1/4W	
R102	1-249-417-11	CARBON	1K	5%	1/4W	
R103	1-247-889-00	CARBON	270K	5%	1/4W	
R104	1-249-430-11	CARBON	12K	5%	1/4W	
R105	1-249-408-11	CARBON	180	5%	1/4W	
R105A	1-249-461-11	CARBON	820	5%	1/4W	
R107	1-247-891-00	CARBON	330K	5%	1/4W	
R108	1-247-847-11	CARBON	4.7K	5%	1/4W	
R109	1-247-879-11	CARBON	100K	5%	1/4W	
R110	1-247-855-11	CARBON	10K	5%	1/4W	
R111	1-249-432-11	CARBON	18K	5%	1/4W	
R112	1-247-885-00	CARBON	180K	5%	1/4W	
R113	1-247-891-00	CARBON	330K	5%	1/4W	
R114	1-249-408-11	CARBON	180	5%	1/4W	
R115	1-247-839-11	CARBON	2.2K	5%	1/4W	
R116	1-247-881-00	CARBON	120K	5%	1/4W	
R117	1-247-855-11	CARBON	10K	5%	1/4W	
R121	1-247-847-11	CARBON	4.7K	5%	1/4W	
R122	1-247-855-11	CARBON	10K	5%	1/4W	
R123	1-247-855-11	CARBON	10K	5%	1/4W	
R124	1-249-427-11	CARBON	6.8K	5%	1/4W	
R125	1-247-847-11	CARBON	4.7K	5%	1/4W	
R126	1-247-871-11	CARBON	47K	5%	1/4W	
R127	1-247-871-11	CARBON	47K	5%	1/4W	
R128	1-247-871-11	CARBON	47K	5%	1/4W	
R129	1-247-871-11	CARBON	47K	5%	1/4W	
R130	1-247-879-11	CARBON	100K	5%	1/4W	
R131	1-249-417-11	CARBON	1K	5%	1/4W	
R132	1-247-847-11	CARBON	4.7K	5%	1/4W	
R133	1-247-847-11	CARBON	4.7K	5%	1/4W	
R134	1-247-807-11	CARBON	100	5%	1/4W	
R141	1-247-807-11	CARBON	100	5%	1/4W	
R142	1-247-847-11	CARBON	4.7K	5%	1/4W	
R151	1-260-111-11	CARBON	10K	5%	1/2W	
R152	1-247-839-11	CARBON	2.2	5%	1/4W	
R201	1-249-417-11	CARBON	1K	5%	1/4W	
R202	1-249-417-11	CARBON	1K	5%	1/4W	
R203	1-247-889-00	CARBON	270K	5%	1/4W	
R204	1-249-430-11	CARBON	12K	5%	1/4W	
R205	1-249-408-11	CARBON	180	5%	1/4W	
R205A	1-249-416-11	CARBON	820	5%	1/4W	
R207	1-247-891-00	CARBON	330K	5%	1/4W	
R208	1-247-847-11	CARBON	4.7K	5%	1/4W	
R209	1-247-879-11	CARBON	100K	5%	1/4W	
R210	1-247-855-11	CARBON	10K	5%	1/4W	
R211	1-249-432-11	CARBON	18K	5%	1/4W	
R212	1-247-885-00	CARBON	180K	5%	1/4W	
R213	1-247-891-00	CARBON	330K	5%	1/4W	
R214	1-249-408-11	CARBON	180	5%	1/4W	
R215	1-247-839-11	CARBON	2.2K	5%	1/4W	
R216	1-247-881-00	CARBON	120K	5%	1/4W	
R217	1-247-855-11	CARBON	10K	5%	1/4W	
R221	1-247-847-11	CARBON	4.7K	5%	1/4W	
R222	1-247-855-11	CARBON	10K	5%	1/4W	
R223	1-247-855-11	CARBON	10K	5%	1/4W	
R224	1-249-427-11	CARBON	6.8K	5%	1/4W	
R225	1-247-847-11	CARBON	4.7K	5%	1/4W	
R226	1-247-871-11	CARBON	47K	5%	1/4W	
R227	1-247-871-11	CARBON	47K	5%	1/4W	
R228	1-247-871-11	CARBON	47K	5%	1/4W	
R229	1-247-871-11	CARBON	47K	5%	1/4W	
R230	1-247-879-11	CARBON	100K	5%	1/4W	
R231	1-249-417-11	CARBON	1K	5%	1/4W	
R232	1-247-847-11	CARBON	4.7K	5%	1/4W	
R233	1-247-847-11	CARBON	4.7K	5%	1/4W	
R234	1-247-807-11	CARBON	100	5%	1/4W	
R241	1-247-807-11	CARBON	100	5%	1/4W	
R242	1-247-847-11	CARBON	4.7K	5%	1/4W	
R251	1-247-855-11	CARBON	10K	5%	1/4W	
R252	1-247-839-11	CARBON	2.2	5%	1/4W	
R301	1-247-855-11	CARBON	10K	5%	1/4W	
R302	1-247-855-11	CARBON	10K	5%	1/4W	
R303	1-249-434-11	CARBON	27K	5%	1/4W	
R305	1-247-841-11	CARBON	2.7K	5%	1/4W	
R308	1-249-415-11	CARBON	680	5%	1/4W	
R309	1-249-434-11	CARBON	27K	5%	1/4W	
R310	1-249-399-11	CARBON	33	5%	1/4W	
R312	1-247-807-11	CARBON	100	5%	1/4W	
R313	1-247-863-11	CARBON	22K	5%	1/4W	
R314	1-249-431-11	CARBON	15K	5%	1/4W	
R317	1-247-903-00	CARBON	1M	5%	1/4W	
R318	1-247-855-11	CARBON	10K	5%	1/4W	
R319	1-247-879-11	CARBON	100K	5%	1/4W	
R320	1-247-843-11	CARBON	3.3K	5%	1/4W	
R325	1-247-855-11	CARBON	10K	5%	1/4W	
R326	1-247-855-11	CARBON	10K	5%	1/4W	

MAIN **MOTOR** **POWER** **SENSOR** **SP TERMINAL**

Ref. No.	Part No.	Description			Remark
R329	1-247-841-11	CARBON	2.7K	5%	1/4W
R330	1-247-847-11	CARBON	4.7K	5%	1/4W
R331	1-249-409-11	CARBON	220	5%	1/4W
R333	1-247-807-11	CARBON	100	5%	1/4W
R335	1-249-417-11	CARBON	1K	5%	1/4W
R336	1-247-903-00	CARBON	1M	5%	1/4W
R338	1-249-411-11	CARBON	330	5%	1/4W
R341	1-249-407-11	CARBON	150	5%	1/4W
R342	1-247-855-11	CARBON	10K	5%	1/4W
R351	1-247-855-11	CARBON	10K	5%	1/4W
R352	1-247-843-11	CARBON	3.3K	5%	1/4W
R353	1-247-855-11	CARBON	10K	5%	1/4W
R355	1-247-903-00	CARBON	1M	5%	1/4W
R356	1-247-903-00	CARBON	1M	5%	1/4W
R357	1-247-903-00	CARBON	1M	5%	1/4W
R358	1-260-088-11	CARBON	120	5%	1/2W
R362	1-247-855-11	CARBON	10K	5%	1/4W
R363	1-247-855-11	CARBON	10K	5%	1/4W
R364	1-249-417-11	CARBON	1K	5%	1/4W
		< VARIABLE RESISTOR >			
RV1	1-225-473-11	RES, ADJ 20K			
		< SWITCH >			
S1	1-771-153-11	SWITCH, LEVER (BAND)			
		< VARIABLE RESISTOR >			
SFR301	1-225-474-11	RES, ADJ 2K			
		< SWITCH >			
SW301	1-571-588-11	SWITCH, SLIDE (STEREO MODE/ISS)			
		< TRANSFORMER >			
T1	1-416-272-11	COIL, AM IFT (W702)			
		< VARIABLE CAPACITOR >			
VC1-4	1-141-579-11	CAP, ADJ VAR (TUNING)			
**********					
*	1-658-023-12	MOTOR BOARD			
		**********			
		< CONNECTOR >			
CN703	1-564-722-11	CONNECTOR 6P			
		< SWITCH >			
S05	1-572-085-12	SWITCH, LEAF (LIMIT)			
**********					

Ref. No.	Part No.	Description			Remark
*	1-666-278-11	POWER BOARD			
		**********			
	1-533-217-31	HOLDER, FUSE			
		< CAPACITOR >			
C901	1-161-055-00	CERAMIC	0.022uF	10%	50V
C902	1-161-055-00	CERAMIC	0.022uF	10%	50V
C903	1-161-055-00	CERAMIC	0.022uF	10%	50V
C904	1-161-055-00	CERAMIC	0.022uF	10%	50V
C906	1-117-804-11	CERAMIC	0.1uF		50V
		< CONNECTOR >			
CN901	1-779-694-11	CONNECTOR (BASE) 5P			
CN902	1-779-619-11	CONNECTOR (BASE) 3P			
		< DIODE >			
D901	8-719-030-52	DIODE 1N5402			
D902	8-719-030-52	DIODE 1N5402			
D903	8-719-030-52	DIODE 1N5402			
D904	8-719-030-52	DIODE 1N5402			
D905	8-719-987-63	DIODE 1N4148M			
		< FUSE >			
⚠F901	1-533-901-11	FUSE (4A/250V) (EXECPT AUS)			
⚠F901	1-533-902-11	FUSE (4A/250V) (AUS)			
		< AC INLET >			
⚠JK901	1-251-618-11	INLET, AC (AC IN)			
		< TRANSFORMER >			
⚠T901	1-431-441-11	TRANSFORMER, POWER			
**********					
	1-666-276-11	SENSOR BOARD			
		**********			
		< CONNECTOR >			
CN004	1-779-681-11	PIN HEADER, SIDE 40P			
		< REMOTE RECEIVER >			
SEN851	1-759-412-11	RECEIVER, REMOTE (SPS-447)			
**********					
*	1-666-161-11	SP TERMINAL BOARD			
		**********			
		< CONNECTOR >			
CN305	1-779-614-11	CONNECTOR (WIRE HOLDER) 4P			
		< TERMINAL >			
JK302	1-694-307-11	TERMINAL, SP 4P (SPEAKER)			
**********					

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

Ref. No.	Part No.	Description			Remark
*	1-666-274-11	TRANSISTOR BOARD			
		**********			
	7-685-546-14	SCREW +BTP	3X8 TYPE2 N-S	(IT)	
	7-685-647-79	SCREW +BTP	3X10 TYPE2 N-S	(EXCEPT IT)	
		< CAPACITOR >			
C314	1-126-935-11	ELECT	470uF	20% 16V	
C323	1-126-935-11	ELECT	470uF	20% 16V	
C326	1-117-804-11	CERAMIC	0.1uF	50V	
		< CONNECTOR >			
CN304	1-779-613-11	CONNECTOR (WIRE HOLDER) 5P			
		< DIODE >			
D306	8-719-110-17	DIODE	RD10ESB2		
D315	8-719-110-17	DIODE	RD10ESB2		
		< FUSIBLE >			
⚠FR301	1-219-149-11	FUSIBLE	1	5% 1/4W F	
		< TRANSISTOR >			
Q311	8-729-822-89	TRANSISTOR	2SD1667-R		
Q318	8-729-822-89	TRANSISTOR	2SD1667-R		
		< RESISTOR >			
R311	1-249-411-11	CARBON	330	5% 1/4W	
R339	1-249-411-11	CARBON	330	5% 1/4W	
R360	1-247-807-11	CARBON	100	5% 1/4W	
R361	1-247-807-11	CARBON	100	5% 1/4W	
**********					
		MISCELLANEOUS			
		**********			
102	1-782-391-11	LEAD, CONNECTOR (300MM) 5P			
104	1-782-390-11	LEAD, CONNECTOR (300MM) 3P			
110	1-782-393-11	CABLE, FLEXIBLE FLAT (120MM) 15P			
112	1-782-394-11	CABLE, FLEXIBLE FLAT (160MM) 21P			
116	1-452-732-11	MAGNET			
124	1-782-392-11	CABLE, FLEXIBLE FLAT (80MM) 16P			
125	1-779-607-11	LEAD, (WITH CONNECTOR) (160MM) 6P			
126	1-779-608-11	LEAD, (WITH CONNECTOR) (100MM) 2P			
⚠151	8-848-379-31	OPTICAL PICK-UP KSS-213B/F-NP			
ANT901	1-501-927-11	ANTENNA, TELESCOPIC (FM/SW)			
HE901	1-500-139-11	HEAD, E (ERASE) (DECK B)			
HP901	1-500-463-11	HEAD, P (PLAYBACK) (DECK A)			
HPR901	1-500-464-11	HEAD, RP (REC/PB) (DECK B)			
M601	X-3374-558-1	MOTOR ASSY (CAPSTAN/REEL)			
M701	X-2625-769-1	GEAR ASSY (MB), MOTOR (SLED)			
M702	X-2625-770-1	CHASSIS ASSY (MB) (RP), MOTOR (SPINDLE)			
S301	1-771-134-11	SWITCH, REC (DECK B)			
S302	1-771-135-11	SWITCH, LEAF (MOTOR ON) (DECK B)			
S304	1-771-135-11	SWITCH, LEAF (MOTOR ON/PLAY) (DECK A)			
S305	1-762-023-11	SWITCH, LEAF (PLAY) (DECK B)			
S702	1-692-960-11	SWITCH, PUSH (1 KEY) (CD LID OPEN/CLOSE DET)			
SP101	1-505-653-11	SPEAKER (4 INCH) (L-CH)			
SP201	1-505-653-11	SPEAKER (4 INCH) (R-CH)			
**********					
		**********			
		HARDWARE LIST			
		**********			
#1	7-685-648-79	SCREW +BTP 3X12 TYPE2 N-S			
#2	7-685-248-19	SCREW +KTP 3X12 TYPE2 NON-SLIT			
#3	7-685-650-79	SCREW +BTP 3X16 TYPE2 N-S			
#4	7-685-548-19	SCREW +BTP 3X12 TYPE2 N-S			
#5	7-682-549-09	SCREW +B 3X10			
#6	7-685-903-21	SCREW +PTPWH 3X8 (TYPE2)			
#7	7-685-102-14	SCREW +P 2X4 TYPE2 NON-SLIT			
#8	7-685-547-14	SCREW +BTP 3X10 TYPE2 N-S			
#9	7-685-133-14	SCREW +P 2.6X6 TYPE2 NON-SLIT			
#10	7-685-134-19	SCREW +PTPWH 2.6X8 (TYPE2)			
#11	7-685-536-14	SCREW +BTP 2.6X12 TYPE2 N-S			
#12	7-621-255-15	SCREW +P 2X3			
**********					
		ACCESSORIES & PACKING MATERIALS			
		**********			
	1-475-272-11	REMOTE COMMANDER (RMT-CZW200AD)			
⚠	1-475-273-11	ADAPTOR, AC (AEP, UK, EE, Russian)			
⚠	1-782-494-11	CORD, POWER (EXCEPT AUS)			
	1-782-416-11	CORD, CONNECTION (AUS)			
	3-018-608-01	COVER, BATTERY (for RMT-CZW200AD)			
	3-859-373-31	MANUAL, INSTRUCTION (ENGLISH, GERMAN) (AEP, UK, AUS)			
	3-859-373-41	MANUAL, INSTRUCTION (FRENCH, SPANISH) (AEP)			
	3-859-373-51	MANUAL, INSTRUCTION (ITALIAN, SWEDISH, PORTUGUESE) (AEP)			
	3-859-373-61	MANUAL, INSTRUCTION (ITALIAN) (IT)			
	3-859-373-72	MANUAL, INSTRUCTION (RUSSIAN, POLISH) (EE, Russian)			
	3-859-373-91	MANUAL, INSTRUCTION (CZECH, HUNGARIAN) (EE, Russian)			

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9-923-213-12

Sony Corporation
Personal A&V Products Company

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